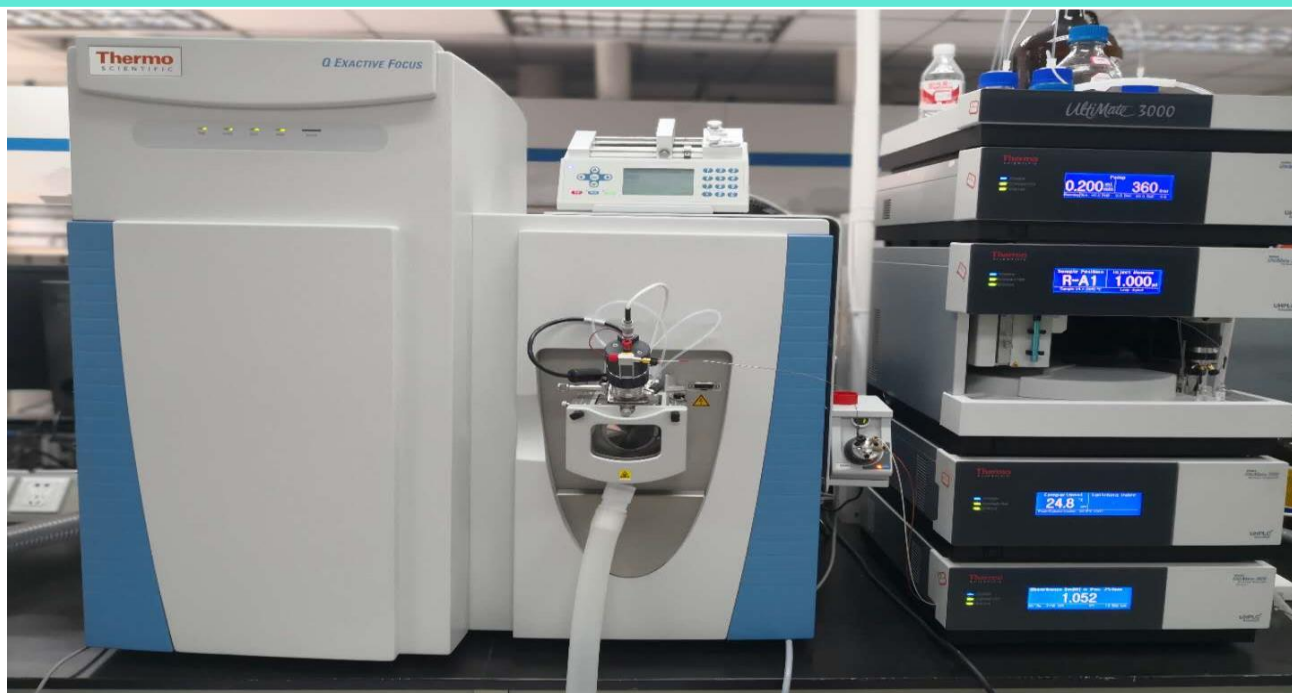




# Cephalosporin Impurity Product Catalogue

Guangzhou PI &PI Biotech Inc., Ltd.

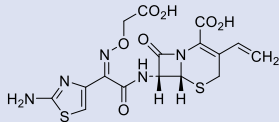
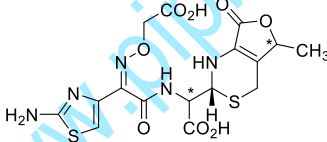
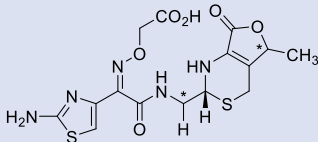
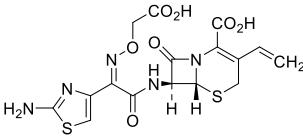
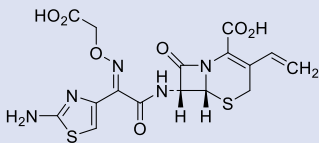


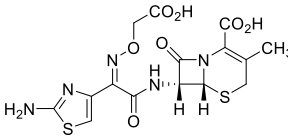
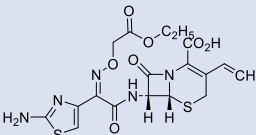
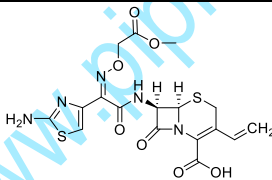
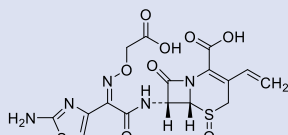
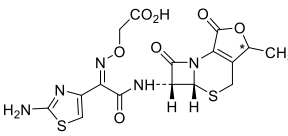
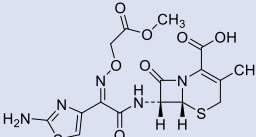
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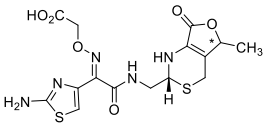
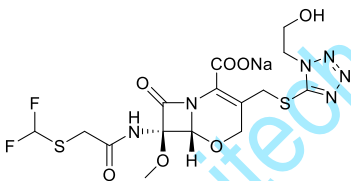
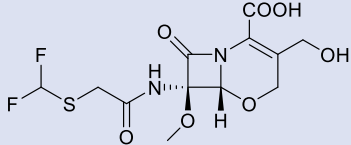
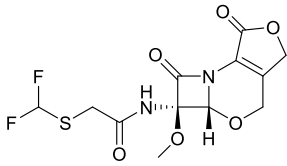
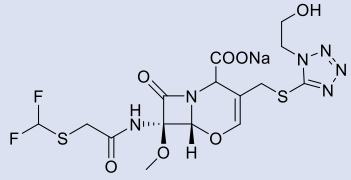
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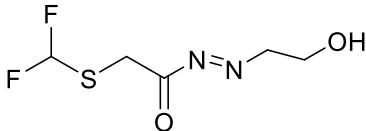
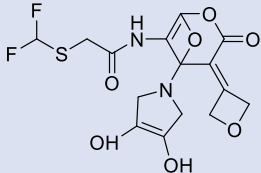
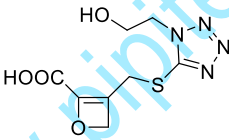
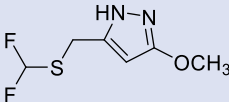
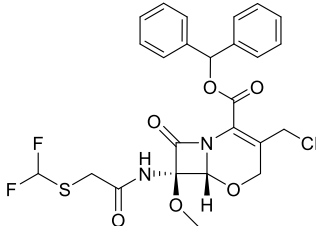
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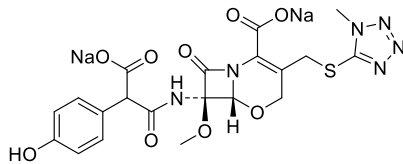
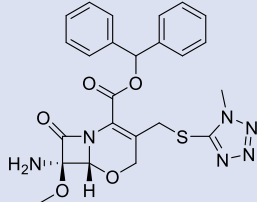
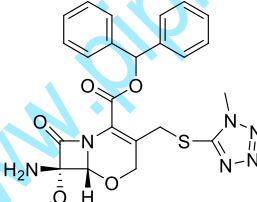
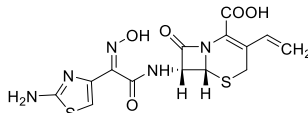
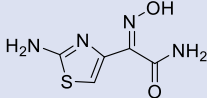
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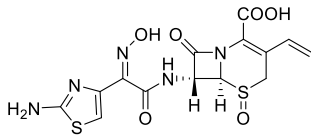
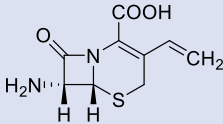
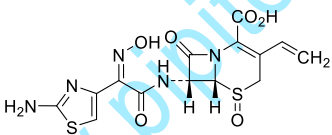
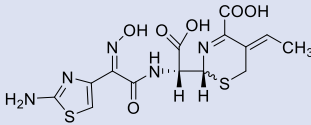
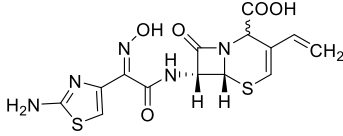
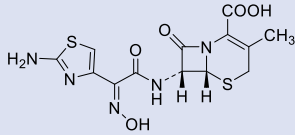
| API      | Pharma-<br>copoeia<br>Standard | Product Name | Structure                                                                                                                                                                                                  | Structure<br>information                                                                                                                  |
|----------|--------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Cefixime |                                | Cefixime     |  <p>Chemical Formula: <math>C_{16}H_{15}N_5O_7S_2</math><br/>Exact Mass: 453.04129<br/>Molecular Weight: 453.44400</p>   | <b>Chemical Formula:</b><br><b>C16H15N5O7S2</b><br><b>Exact Mass:</b><br><b>453.04129</b><br><b>Molecular Weight:</b><br><b>453.44400</b> |
|          | EP                             | Impurity A   |  <p>Chemical Formula: <math>C_{16}H_{17}N_5O_8S_2</math><br/>Exact Mass: 471.05185<br/>Molecular Weight: 471.45900</p>  | <b>Chemical Formula:</b><br><b>C16H17N5O8S2</b><br><b>Exact Mass:</b><br><b>471.05185</b><br><b>Molecular Weight:</b><br><b>471.45900</b> |
|          | EP                             | Impurity B   |  <p>Chemical Formula: <math>C_{15}H_{17}N_5O_6S_2</math><br/>Exact Mass: 427.06202<br/>Molecular Weight: 427.45000</p> | <b>Chemical Formula:</b><br><b>C15H17N5O6S2</b><br><b>Exact Mass:</b><br><b>427.06202</b><br><b>Molecular Weight:</b><br><b>427.45000</b> |
|          | EP                             | Impurity C   |  <p>Chemical Formula: <math>C_{16}H_{15}N_5O_7S_2</math><br/>Exact Mass: 453.04129<br/>Molecular Weight: 453.44400</p> | <b>Chemical Formula:</b><br><b>C16H15N5O7S2</b><br><b>Exact Mass:</b><br><b>453.04129</b><br><b>Molecular Weight:</b><br><b>453.44400</b> |
|          | EP                             | Impurity D   |  <p>Chemical Formula: <math>C_{16}H_{15}N_5O_7S_2</math><br/>Exact Mass: 453.04129<br/>Molecular Weight: 453.44400</p> | <b>Chemical Formula:</b><br><b>C16H15N5O7S2</b><br><b>Exact Mass:</b><br><b>453.04129</b><br><b>Molecular Weight:</b>                     |

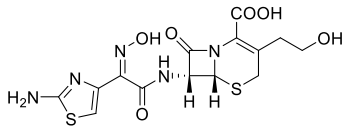
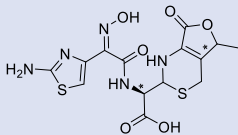
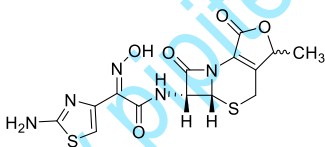
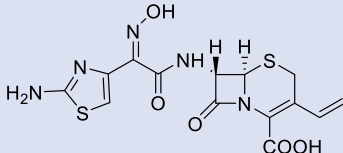
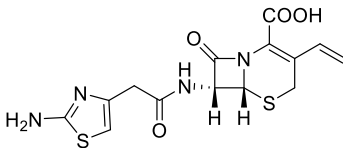
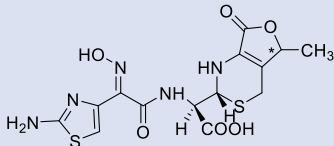
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|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                              |                                                                                                                                                                                                            | 453.44400                                                                                                                                                   |
| EP | Impurity E                   |  <p>Chemical Formula: <math>C_{15}H_{15}N_5O_7S_2</math><br/>Exact Mass: 441.04129<br/>Molecular Weight: 441.43300</p>   | <p><b>Chemical Formula:</b><br/><b>C15H15N5O7S2</b></p> <p><b>Exact Mass:</b><br/><b>441.04129</b></p> <p><b>Molecular Weight:</b><br/><b>441.43300</b></p> |
| EP | Impurity F                   |  <p>Chemical Formula: <math>C_{18}H_{19}N_5O_7S_2</math><br/>Exact Mass: 481.07259<br/>Molecular Weight: 481.49800</p>   | <p><b>Chemical Formula:</b><br/><b>C18H19N5O7S2</b></p> <p><b>Exact Mass:</b><br/><b>481.07259</b></p> <p><b>Molecular Weight:</b><br/><b>481.49800</b></p> |
|    | Cefixime Methyl Ester        |  <p>Chemical Formula: <math>C_{17}H_{17}N_5O_7S_2</math><br/>Exact Mass: 467.05694<br/>Molecular Weight: 467.47100</p>  | <p><b>Chemical Formula:</b><br/><b>C17H17N5O7S2</b></p> <p><b>Exact Mass:</b><br/><b>467.05694</b></p> <p><b>Molecular Weight:</b><br/><b>467.47100</b></p> |
|    | Cefixime Oxide Impurity      |  <p>Chemical Formula: <math>C_{16}H_{15}N_5O_8S_2</math><br/>Exact Mass: 469.03620<br/>Molecular Weight: 469.44300</p> | <p><b>Chemical Formula:</b><br/><b>C16H15N5O8S2</b></p> <p><b>Exact Mass:</b><br/><b>469.03620</b></p> <p><b>Molecular Weight:</b><br/><b>469.44300</b></p> |
|    | Cefixime Lactone             |  <p>Chemical Formula: <math>C_{16}H_{15}N_5O_7S_2</math><br/>Exact Mass: 453.04129<br/>Molecular Weight: 453.44400</p> | <p><b>Chemical Formula:</b><br/><b>C16H15N5O7S2</b></p> <p><b>Exact Mass:</b><br/><b>453.04129</b></p> <p><b>Molecular Weight:</b><br/><b>453.44400</b></p> |
|    | Cefixime Impurity E Forebody |  <p>Chemical Formula: <math>C_{16}H_{17}N_5O_7S_2</math><br/>Exact Mass: 455.05694<br/>Molecular Weight: 455.46000</p> | <p><b>Chemical Formula:</b><br/><b>C16H17N5O7S2</b></p> <p><b>Exact Mass:</b><br/><b>455.05694</b></p> <p><b>Molecular Weight:</b><br/><b>455.46000</b></p> |

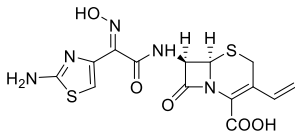
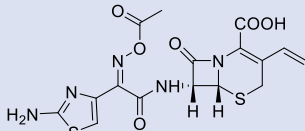
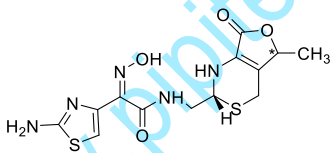
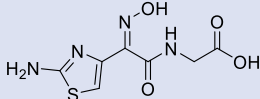
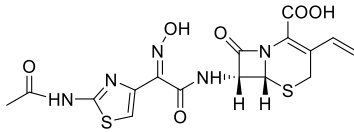
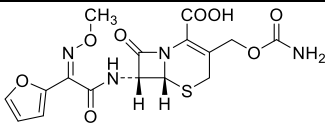
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|------------------------|--|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |  |                                |                                                                                                                                                                                                                                                            | 455.46000                                                                                                                                                                                             |
|                        |  | Cefixime Impurity<br><br>B(7E) |  <p>Chemical Formula: C<sub>15</sub>H<sub>17</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 427.06202<br/>Molecular Weight: 427.45000</p>                  | <b>Chemical Formula:</b><br>C <sub>15</sub> H <sub>17</sub> N <sub>5</sub> O <sub>6</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>427.06202<br><b>Molecular Weight:</b><br>427.45000                  |
|                        |  |                                |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                       |
| Flomoxef<br><br>sodium |  | Flomoxef sodium                |  <p>Chemical Formula: C<sub>15</sub>H<sub>17</sub>F<sub>2</sub>N<sub>6</sub>NaO<sub>7</sub>S<sub>2</sub><br/>Exact Mass: 518.04659<br/>Molecular Weight: 518.44258</p>   | <b>Chemical Formula:</b><br>C <sub>15</sub> H <sub>17</sub> F <sub>2</sub> N <sub>6</sub> NaO <sub>7</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>518.04659<br><b>Molecular Weight:</b><br>518.44258 |
|                        |  | Detetrazole<br><br>Flomoxef    |  <p>Chemical Formula: C<sub>12</sub>H<sub>14</sub>F<sub>2</sub>N<sub>2</sub>O<sub>7</sub>S<br/>Exact Mass: 368.04898<br/>Molecular Weight: 368.30781</p>               | <b>Chemical Formula:</b><br>C <sub>12</sub> H <sub>14</sub> F <sub>2</sub> N <sub>2</sub> O <sub>7</sub> S<br><b>Exact Mass:</b><br>368.04898<br><b>Molecular Weight:</b><br>368.30781                |
|                        |  | Flomoxef lactone               |  <p>Chemical Formula: C<sub>12</sub>H<sub>12</sub>F<sub>2</sub>N<sub>2</sub>O<sub>6</sub>S<br/>Exact Mass: 350.03841<br/>Molecular Weight: 350.29281</p>               | <b>Chemical Formula:</b><br>C <sub>12</sub> H <sub>12</sub> F <sub>2</sub> N <sub>2</sub> O <sub>6</sub> S<br><b>Exact Mass:</b><br>350.03841<br><b>Molecular Weight:</b><br>350.29281                |
|                        |  | Δ3-Flomoxef<br><br>sodium      |  <p>Chemical Formula: C<sub>15</sub>H<sub>17</sub>F<sub>2</sub>N<sub>6</sub>NaO<sub>7</sub>S<sub>2</sub><br/>Exact Mass: 518.04659<br/>Molecular Weight: 518.44258</p> | <b>Chemical Formula:</b><br>C <sub>15</sub> H <sub>17</sub> F <sub>2</sub> N <sub>6</sub> NaO <sub>7</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>518.04659<br><b>Molecular Weight:</b><br>518.44258 |

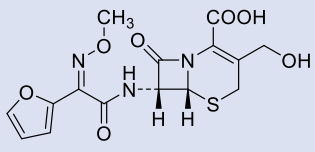
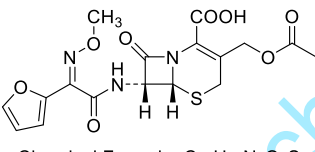
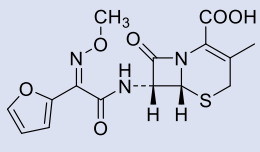
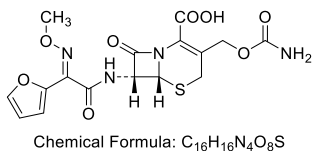
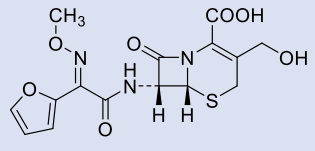
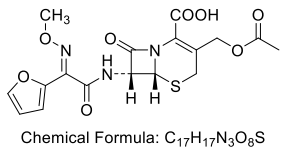
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|--|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|  | Flomoxef sodium<br>Impurity 2 |  <p>Chemical Formula: <math>C_5H_8F_2N_2O_2S</math><br/>Exact Mass: 198.02745<br/>Molecular Weight: 198.18781</p>           | <p>Chemical Formula:<br/><math>C_5H_8F_2N_2O_2S</math><br/>Exact Mass:<br/>198.02745<br/>Molecular Weight:<br/>198.18781</p>         |
|  | Flomoxef sodium<br>Impurity 3 |  <p>Chemical Formula: <math>C_{15}H_{14}F_2N_2O_7S</math><br/>Exact Mass: 404.04898<br/>Molecular Weight: 404.34081</p>     | <p>Chemical Formula:<br/><math>C_{15}H_{14}F_2N_2O_7S</math><br/>Exact Mass:<br/>404.04898<br/>Molecular Weight:<br/>404.34081</p>   |
|  | Flomoxef sodium<br>Impurity 4 |  <p>Chemical Formula: <math>C_8H_{10}N_4O_4S</math><br/>Exact Mass: 258.04228<br/>Molecular Weight: 258.25200</p>           | <p>Chemical Formula:<br/><math>C_8H_{10}N_4O_4S</math><br/>Exact Mass:<br/>258.04228<br/>Molecular Weight:<br/>258.25200</p>         |
|  | Flomoxef sodium<br>Impurity 5 |  <p>Chemical Formula: <math>C_6H_8F_2N_2OS</math><br/>Exact Mass: 194.03254<br/>Molecular Weight: 194.19981</p>           | <p>Chemical Formula:<br/><math>C_6H_8F_2N_2OS</math><br/>Exact Mass:<br/>194.03254<br/>Molecular Weight:<br/>194.19981</p>           |
|  | Flomoxef<br>Intermediate F3   |  <p>Chemical Formula: <math>C_{25}H_{23}ClF_2N_2O_6S</math><br/>Exact Mass: 552.09334<br/>Molecular Weight: 552.97381</p> | <p>Chemical Formula:<br/><math>C_{25}H_{23}ClF_2N_2O_6S</math><br/>Exact Mass:<br/>552.09334<br/>Molecular Weight:<br/>552.97381</p> |

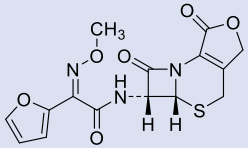
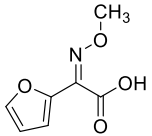
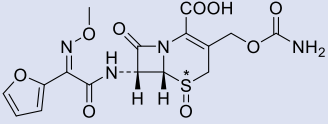
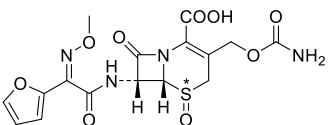
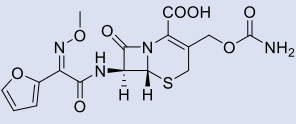
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| Latamoxef Sodium |    | Latamoxef Sodium      |  <p>Chemical Formula: <math>C_{20}H_{18}N_6Na_2O_9S</math><br/>Exact Mass: 564.06514<br/>Molecular Weight: 564.43654</p> | <p>Chemical Formula: <math>C_{20}H_{18}N_6Na_2O_9S</math><br/>Exact Mass: 564.06514<br/>Molecular Weight: 564.43654</p> |
|                  |    | Latamoxef Nuclear     |  <p>Chemical Formula: <math>C_{24}H_{24}N_6O_5S</math><br/>Exact Mass: 508.15289<br/>Molecular Weight: 508.55300</p>     | <p>Chemical Formula: <math>C_{24}H_{24}N_6O_5S</math><br/>Exact Mass: 508.15289<br/>Molecular Weight: 508.55300</p>     |
|                  |    | 7S- Latamoxef Nuclear |  <p>Chemical Formula: <math>C_{24}H_{24}N_6O_5S</math><br/>Exact Mass: 508.15289<br/>Molecular Weight: 508.55300</p>    | <p>Chemical Formula: <math>C_{24}H_{24}N_6O_5S</math><br/>Exact Mass: 508.15289<br/>Molecular Weight: 508.55300</p>     |
|                  |    |                       |                                                                                                                                                                                                            |                                                                                                                         |
| Cefdinir         |    | Cefdinir              |  <p>Chemical Formula: <math>C_{14}H_{13}N_5O_5S_2</math><br/>Exact Mass: 395.03581<br/>Molecular Weight: 395.40800</p> | <p>Chemical Formula: <math>C_{14}H_{13}N_5O_5S_2</math><br/>Exact Mass: 395.03581<br/>Molecular Weight: 395.40800</p>   |
|                  | CP | Impurity A            |  <p>Chemical Formula: <math>C_5H_6N_4O_2S</math><br/>Exact Mass: 186.02115<br/>Molecular Weight: 186.18900</p>         | <p>Chemical Formula: <math>C_5H_6N_4O_2S</math><br/>Exact Mass: 186.02115<br/>Molecular Weight: 186.18900</p>           |

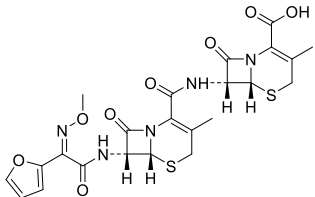
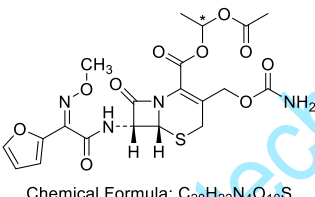
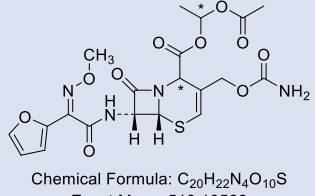
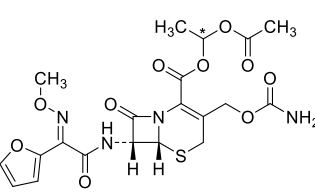
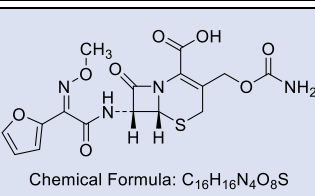
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|  | CP | Impurity B             |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 411.03072<br/>Molecular Weight: 411.40700</p>   | <b>Chemical Formula:</b><br>C <sub>14</sub> H <sub>13</sub> N <sub>5</sub> O <sub>6</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>411.03072<br><b>Molecular Weight:</b><br>411.40700 |
|  | CP | Impurity C<br>(7-AVCA) |  <p>Chemical Formula: C<sub>9</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>S<br/>Exact Mass: 226.04121<br/>Molecular Weight: 226.25000</p>                | <b>Chemical Formula:</b><br>C <sub>9</sub> H <sub>10</sub> N <sub>2</sub> O <sub>3</sub> S<br><b>Exact Mass:</b><br>226.04121<br><b>Molecular Weight:</b><br>226.25000               |
|  | CP | Impurity D             |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 411.03072<br/>Molecular Weight: 411.40700</p>   | <b>Chemical Formula:</b><br>C <sub>14</sub> H <sub>13</sub> N <sub>5</sub> O <sub>6</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>411.03072<br><b>Molecular Weight:</b><br>411.40700 |
|  | CP | Impurity E             |  <p>Chemical Formula: C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 413.04637<br/>Molecular Weight: 413.42300</p> | <b>Chemical Formula:</b><br>C <sub>14</sub> H <sub>15</sub> N <sub>5</sub> O <sub>6</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>413.04637<br><b>Molecular Weight:</b><br>413.42300 |
|  | CP | Impurity F             |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 395.03581<br/>Molecular Weight: 395.40800</p> | <b>Chemical Formula:</b><br>C <sub>14</sub> H <sub>13</sub> N <sub>5</sub> O <sub>5</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>395.03581<br><b>Molecular Weight:</b><br>395.40800 |
|  | CP | Impurity G             |  <p>Chemical Formula: C<sub>13</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 383.03581<br/>Molecular Weight: 383.39700</p> | <b>Chemical Formula:</b><br>C <sub>13</sub> H <sub>13</sub> N <sub>5</sub> O <sub>5</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>383.03581<br><b>Molecular Weight:</b><br>383.39700 |

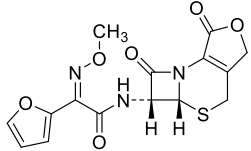
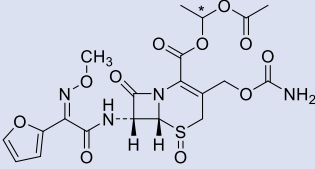
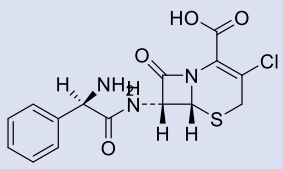
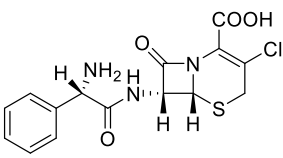
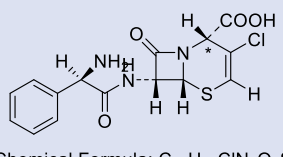
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|  | CP | Impurity H    |  <p>Chemical Formula: C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 413.04637<br/>Molecular Weight: 413.42300</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>413.04637</b></p> <p><b>Molecular Weight:</b><br/><b>413.42300</b></p> |
|  | CP | Impurity IJKL |  <p>Chemical Formula: C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 413.04637<br/>Molecular Weight: 413.42300</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>413.04637</b></p> <p><b>Molecular Weight:</b><br/><b>413.42300</b></p> |
|  | CP | Impurity M    |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 395.03581<br/>Molecular Weight: 395.40800</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>395.03581</b></p> <p><b>Molecular Weight:</b><br/><b>395.40800</b></p> |
|  | CP | Impurity N    |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 395.03581<br/>Molecular Weight: 395.40800</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>395.03581</b></p> <p><b>Molecular Weight:</b><br/><b>395.40800</b></p> |
|  | CP | Impurity O    |  <p>Chemical Formula: C<sub>14</sub>H<sub>14</sub>N<sub>4</sub>O<sub>4</sub>S<sub>2</sub><br/>Exact Mass: 366.04565<br/>Molecular Weight: 366.41000</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>14</sub>H<sub>14</sub>N<sub>4</sub>O<sub>4</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>366.04565</b></p> <p><b>Molecular Weight:</b><br/><b>366.41000</b></p> |
|  | CP | Impurity PQ   |  <p>Chemical Formula: C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 413.04637<br/>Molecular Weight: 413.42300</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>413.04637</b></p> <p><b>Molecular Weight:</b><br/><b>413.42300</b></p> |

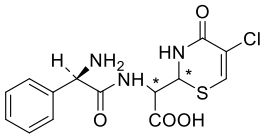
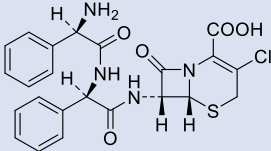
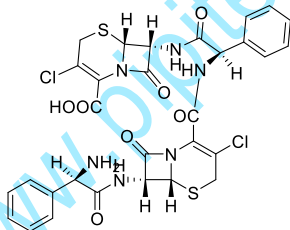
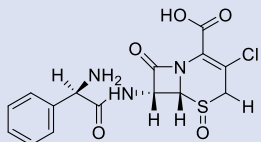
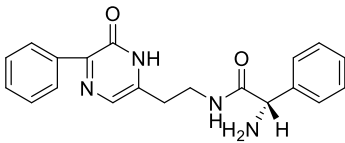
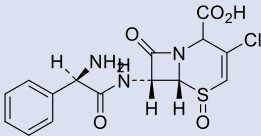
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|----------------------|-----|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | CP  | Impurity R            |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 395.03581<br/>Molecular Weight: 395.40800</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>395.03581</b></p> <p><b>Molecular Weight:</b><br/><b>395.40800</b></p> |
|                      | CP  | Impurity S            |  <p>Chemical Formula: C<sub>16</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 437.04637<br/>Molecular Weight: 437.44500</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>16</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>437.04637</b></p> <p><b>Molecular Weight:</b><br/><b>437.44500</b></p> |
|                      | CP  | Impurity TU           |  <p>Chemical Formula: C<sub>13</sub>H<sub>15</sub>N<sub>5</sub>O<sub>4</sub>S<sub>2</sub><br/>Exact Mass: 369.05655<br/>Molecular Weight: 369.41400</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>13</sub>H<sub>15</sub>N<sub>5</sub>O<sub>4</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>369.05655</b></p> <p><b>Molecular Weight:</b><br/><b>369.41400</b></p> |
|                      | USP | Impurity A            |  <p>Chemical Formula: C<sub>7</sub>H<sub>8</sub>N<sub>4</sub>O<sub>4</sub>S<br/>Exact Mass: 244.03<br/>Molecular Weight: 244.23</p>                     | <p><b>Chemical Formula:</b><br/><b>C<sub>7</sub>H<sub>8</sub>N<sub>4</sub>O<sub>4</sub>S</b></p> <p><b>Exact Mass:</b><br/><b>244.03</b></p> <p><b>Molecular Weight:</b><br/><b>244.23</b></p>                     |
|                      |     | Acetamide<br>Cefdinir |  <p>Chemical Formula: C<sub>16</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 437.04637<br/>Molecular Weight: 437.44500</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>16</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>437.04637</b></p> <p><b>Molecular Weight:</b><br/><b>437.44500</b></p> |
|                      |     |                       |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                    |
| Cefuroxime<br>Sodium |     | Cefuroxime<br>Sodium  |  <p>Chemical Formula: C<sub>16</sub>H<sub>16</sub>N<sub>4</sub>O<sub>6</sub>S<br/>Exact Mass: 424.06888<br/>Molecular Weight: 424.38400</p>             | <p><b>Chemical Formula:</b><br/><b>C<sub>16</sub>H<sub>16</sub>N<sub>4</sub>O<sub>6</sub>S</b></p> <p><b>Exact Mass:</b><br/><b>424.06888</b></p>                                                                  |

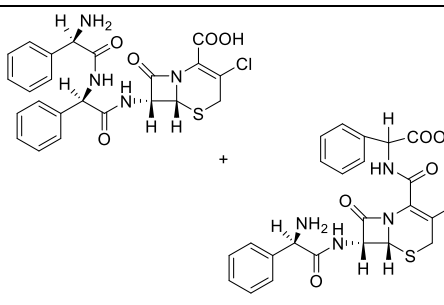
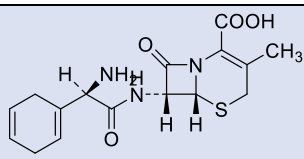
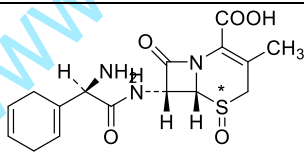
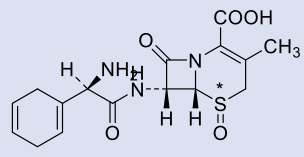
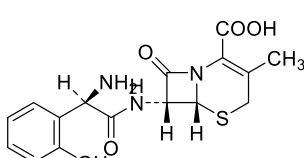
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|----|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |            |                                                                                                                                                                                                                                 | <b>Molecular Weight:</b><br>424.38400                                                                                                                                   |
| EP | Impurity A |  <p>Chemical Formula: C<sub>15</sub>H<sub>15</sub>N<sub>3</sub>O<sub>7</sub>S<br/>Exact Mass: 381.06307<br/>Molecular Weight: 381.35900</p>   | <b>Chemical Formula:</b><br>C <sub>15</sub> H <sub>15</sub> N <sub>3</sub> O <sub>7</sub> S<br><b>Exact Mass:</b><br>381.06307<br><b>Molecular Weight:</b><br>381.35900 |
| EP | Impurity B |  <p>Chemical Formula: C<sub>17</sub>H<sub>17</sub>N<sub>3</sub>O<sub>8</sub>S<br/>Exact Mass: 423.07364<br/>Molecular Weight: 423.39600</p>   | <b>Chemical Formula:</b><br>C <sub>17</sub> H <sub>17</sub> N <sub>3</sub> O <sub>8</sub> S<br><b>Exact Mass:</b><br>423.07364<br><b>Molecular Weight:</b><br>423.39600 |
| EP | Impurity C |  <p>Chemical Formula: C<sub>15</sub>H<sub>15</sub>N<sub>3</sub>O<sub>6</sub>S<br/>Exact Mass: 365.06816<br/>Molecular Weight: 365.36000</p>  | <b>Chemical Formula:</b><br>C <sub>15</sub> H <sub>15</sub> N <sub>3</sub> O <sub>6</sub> S<br><b>Exact Mass:</b><br>365.06816<br><b>Molecular Weight:</b><br>365.36000 |
| EP | Impurity E |  <p>Chemical Formula: C<sub>16</sub>H<sub>16</sub>N<sub>4</sub>O<sub>8</sub>S<br/>Exact Mass: 424.06888<br/>Molecular Weight: 424.38400</p> | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>16</sub> N <sub>4</sub> O <sub>8</sub> S<br><b>Exact Mass:</b><br>424.06888<br><b>Molecular Weight:</b><br>424.38400 |
| EP | Impurity F |  <p>Chemical Formula: C<sub>15</sub>H<sub>15</sub>N<sub>3</sub>O<sub>7</sub>S<br/>Exact Mass: 381.06307<br/>Molecular Weight: 381.35900</p> | <b>Chemical Formula:</b><br>C <sub>15</sub> H <sub>15</sub> N <sub>3</sub> O <sub>7</sub> S<br><b>Exact Mass:</b><br>381.06307<br><b>Molecular Weight:</b><br>381.35900 |
| EP | Impurity G |  <p>Chemical Formula: C<sub>17</sub>H<sub>17</sub>N<sub>3</sub>O<sub>8</sub>S<br/>Exact Mass: 423.07364<br/>Molecular Weight: 423.39600</p> | <b>Chemical Formula:</b><br>C <sub>17</sub> H <sub>17</sub> N <sub>3</sub> O <sub>8</sub> S<br><b>Exact Mass:</b><br>423.07364                                          |

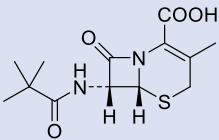
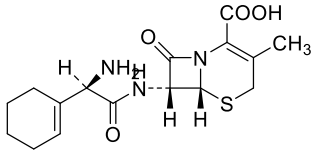
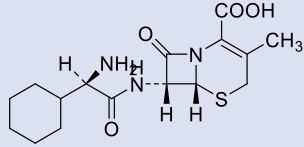
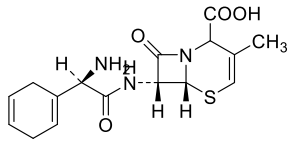
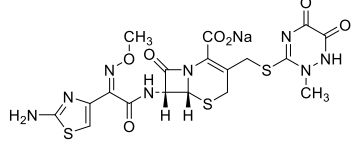
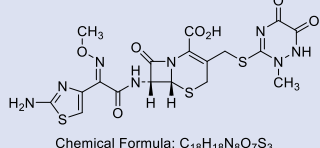
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|----|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                          |                                                                                                                                                                                                                                 | <b>Molecular Weight:</b><br>423.39600                                                                                                                                   |
| EP | Impurity H                               |  <p>Chemical Formula: C<sub>15</sub>H<sub>13</sub>N<sub>3</sub>O<sub>6</sub>S<br/>Exact Mass: 363.05251<br/>Molecular Weight: 363.34400</p>   | <b>Chemical Formula:</b><br>C <sub>15</sub> H <sub>13</sub> N <sub>3</sub> O <sub>6</sub> S<br><b>Exact Mass:</b><br>363.05251<br><b>Molecular Weight:</b><br>363.34400 |
| EP | Impurity I                               |  <p>Chemical Formula: C<sub>7</sub>H<sub>7</sub>NO<sub>4</sub><br/>Exact Mass: 169.03751<br/>Molecular Weight: 169.13600</p>                  | <b>Chemical Formula:</b><br>C <sub>7</sub> H <sub>7</sub> NO <sub>4</sub><br><b>Exact Mass:</b><br>169.03751<br><b>Molecular Weight:</b><br>169.13600                   |
|    | Cefuroxime<br>Sodium Oxide<br>Impurity 1 |  <p>Chemical Formula: C<sub>16</sub>H<sub>16</sub>N<sub>4</sub>O<sub>9</sub>S<br/>Exact Mass: 440.06380<br/>Molecular Weight: 440.38300</p>  | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>16</sub> N <sub>4</sub> O <sub>9</sub> S<br><b>Exact Mass:</b><br>440.06380<br><b>Molecular Weight:</b><br>440.38300 |
|    | Cefuroxime<br>Sodium Oxide<br>Impurity 1 |  <p>Chemical Formula: C<sub>16</sub>H<sub>16</sub>N<sub>4</sub>O<sub>9</sub>S<br/>Exact Mass: 440.06380<br/>Molecular Weight: 440.38300</p> | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>16</sub> N <sub>4</sub> O <sub>9</sub> S<br><b>Exact Mass:</b><br>440.06380<br><b>Molecular Weight:</b><br>440.38300 |
|    | 6R,7S-Cefuroxime<br>Sodium               |  <p>Chemical Formula: C<sub>16</sub>H<sub>16</sub>N<sub>4</sub>O<sub>8</sub>S<br/>Exact Mass: 424.06888<br/>Molecular Weight: 424.38400</p> | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>16</sub> N <sub>4</sub> O <sub>8</sub> S<br><b>Exact Mass:</b><br>424.06888<br><b>Molecular Weight:</b><br>424.38400 |

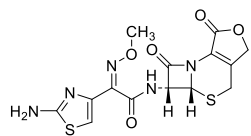
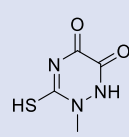
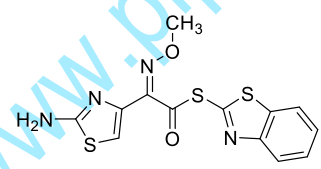
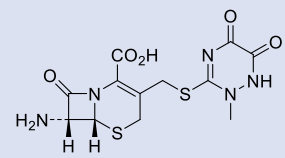
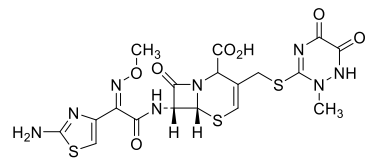
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|--------------------------|----|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |    | Cefuroxime<br><br>Sodium double<br><br>parents |  <p>Chemical Formula: <math>C_{23}H_{23}N_5O_8S_2</math><br/>Exact Mass: 561.09880<br/>Molecular Weight: 561.58400</p>    | <b>Chemical</b><br><b>Formula:</b><br><b><math>C_{23}H_{23}N_5O_8S_2</math></b><br><b>Exact Mass:</b><br><b>561.09880</b><br><b>Molecular Weight:</b><br><b>561.58400</b>  |
|                          |    |                                                |                                                                                                                                                                                                             |                                                                                                                                                                            |
| Cefuroxime<br><br>Axetil |    | Cefuroxime Axetil                              |  <p>Chemical Formula: <math>C_{20}H_{22}N_4O_{10}S</math><br/>Exact Mass: 510.10566<br/>Molecular Weight: 510.47400</p>   | <b>Chemical</b><br><b>Formula:</b><br><b><math>C_{20}H_{22}N_4O_{10}S</math></b><br><b>Exact Mass:</b><br><b>510.10566</b><br><b>Molecular Weight:</b><br><b>510.47400</b> |
|                          | EP | Impurity A                                     |  <p>Chemical Formula: <math>C_{20}H_{22}N_4O_{10}S</math><br/>Exact Mass: 510.10566<br/>Molecular Weight: 510.47400</p>  | <b>Chemical</b><br><b>Formula:</b><br><b><math>C_{20}H_{22}N_4O_{10}S</math></b><br><b>Exact Mass:</b><br><b>510.10566</b><br><b>Molecular Weight:</b><br><b>510.47400</b> |
|                          | EP | Impurity B                                     |  <p>Chemical Formula: <math>C_{20}H_{22}N_4O_{10}S</math><br/>Exact Mass: 510.10566<br/>Molecular Weight: 510.47400</p> | <b>Chemical</b><br><b>Formula:</b><br><b><math>C_{20}H_{22}N_4O_{10}S</math></b><br><b>Exact Mass:</b><br><b>510.10566</b><br><b>Molecular Weight:</b><br><b>510.47400</b> |
|                          | EP | Impurity D                                     |  <p>Chemical Formula: <math>C_{16}H_{16}N_4O_8S</math><br/>Exact Mass: 424.06888<br/>Molecular Weight: 424.38400</p>    | <b>Chemical</b><br><b>Formula:</b><br><b><math>C_{16}H_{16}N_4O_8S</math></b><br><b>Exact Mass:</b><br><b>424.06888</b><br><b>Molecular Weight:</b><br><b>424.38400</b>    |

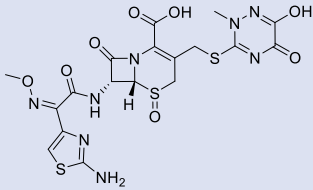
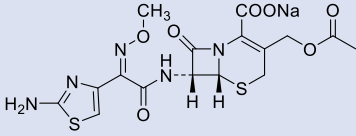
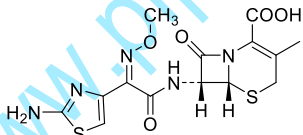
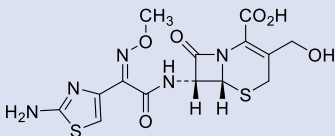
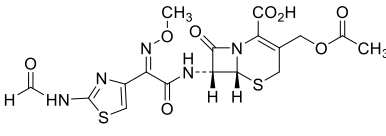
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|          | EP | Impurity E                          |  <p>Chemical Formula: <math>C_{15}H_{13}N_3O_6S</math><br/>Exact Mass: 363.05251<br/>Molecular Weight: 363.34400</p>     | <p>Chemical Formula: <math>C_{15}H_{13}N_3O_6S</math><br/>Exact Mass: 363.05251<br/>Molecular Weight: 363.34400</p>    |
|          |    | Cefuroxime Axetil<br>Oxide Impurity |  <p>Chemical Formula: <math>C_{20}H_{22}N_4O_{11}S</math><br/>Exact Mass: 526.10058<br/>Molecular Weight: 526.47300</p>  | <p>Chemical Formula: <math>C_{20}H_{22}N_4O_{11}S</math><br/>Exact Mass: 526.10058<br/>Molecular Weight: 526.47300</p> |
|          |    |                                     |                                                                                                                                                                                                            |                                                                                                                        |
| Cefaclor |    | Cefaclor                            |  <p>Chemical Formula: <math>C_{15}H_{14}ClN_3O_4S</math><br/>Exact Mass: 367.03935<br/>Molecular Weight: 367.80400</p>  | <p>Chemical Formula: <math>C_{15}H_{14}ClN_3O_4S</math><br/>Exact Mass: 367.03935<br/>Molecular Weight: 367.80400</p>  |
|          | EP | Impurity C                          |  <p>Chemical Formula: <math>C_{15}H_{14}ClN_3O_4S</math><br/>Exact Mass: 367.03935<br/>Molecular Weight: 367.80400</p> | <p>Chemical Formula: <math>C_{15}H_{14}ClN_3O_4S</math><br/>Exact Mass: 367.03935<br/>Molecular Weight: 367.80400</p>  |
|          | EP | Impurity D                          |  <p>Chemical Formula: <math>C_{15}H_{14}ClN_3O_4S</math><br/>Exact Mass: 367.03935<br/>Molecular Weight: 367.80400</p> | <p>Chemical Formula: <math>C_{15}H_{14}ClN_3O_4S</math><br/>Exact Mass: 367.03935<br/>Molecular Weight: 367.80400</p>  |

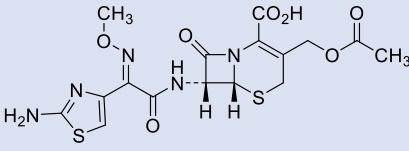
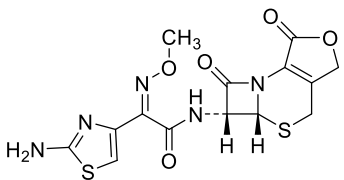
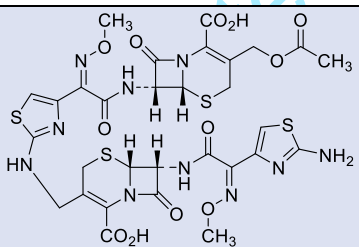
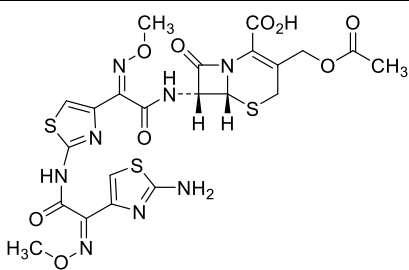
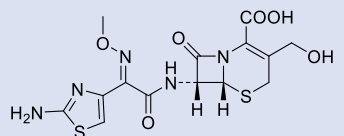
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|--|----|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | EP | Impurity E                   |  <p>Chemical Formula: <math>C_{14}H_{14}ClN_3O_4S</math><br/>Exact Mass: 355.03935<br/>Molecular Weight: 355.79300</p>      | <p>Chemical Formula:<br/><b><math>C_{14}H_{14}ClN_3O_4S</math></b><br/>Exact Mass:<br/><b>355.03935</b><br/>Molecular Weight:<br/><b>355.79300</b></p>     |
|  | EP | Impurity H                   |  <p>Chemical Formula: <math>C_{23}H_{21}ClN_4O_5S</math><br/>Exact Mass: 500.09212<br/>Molecular Weight: 500.95400</p>      | <p>Chemical Formula:<br/><b><math>C_{23}H_{21}ClN_4O_5S</math></b><br/>Exact Mass:<br/><b>500.09212</b><br/>Molecular Weight:<br/><b>500.95400</b></p>     |
|  |    | Cefaclor Dimer               |  <p>Chemical Formula: <math>C_{30}H_{26}Cl_2N_6O_7S_2</math><br/>Exact Mass: 716.06814<br/>Molecular Weight: 717.59300</p> | <p>Chemical Formula:<br/><b><math>C_{30}H_{26}Cl_2N_6O_7S_2</math></b><br/>Exact Mass:<br/><b>716.06814</b><br/>Molecular Weight:<br/><b>717.59300</b></p> |
|  |    | Cefaclor S-Oxide<br>Impurity |  <p>Chemical Formula: <math>C_{15}H_{14}ClN_3O_5S</math><br/>Exact Mass: 383.03427<br/>Molecular Weight: 383.80300</p>    | <p>Chemical Formula:<br/><b><math>C_{15}H_{14}ClN_3O_5S</math></b><br/>Exact Mass:<br/><b>383.03427</b><br/>Molecular Weight:<br/><b>383.80300</b></p>     |
|  | JP | Impurity 1                   |  <p>Chemical Formula: <math>C_{20}H_{20}N_4O_2</math><br/>Exact Mass: 348.15863<br/>Molecular Weight: 348.40600</p>       | <p>Chemical Formula:<br/><b><math>C_{20}H_{20}N_4O_2</math></b><br/>Exact Mass:<br/><b>348.15863</b><br/>Molecular Weight:<br/><b>348.40600</b></p>        |
|  | JP | Impurity 2                   |  <p>Chemical Formula: <math>C_{15}H_{14}ClN_3O_5S</math><br/>Exact Mass: 383.03427<br/>Molecular Weight: 383.80300</p>    | <p>Chemical Formula:<br/><b><math>C_{15}H_{14}ClN_3O_5S</math></b><br/>Exact Mass:<br/><b>383.03427</b><br/>Molecular Weight:<br/><b>383.80300</b></p>     |

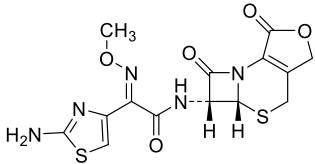
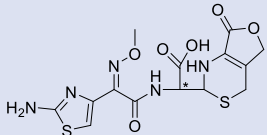
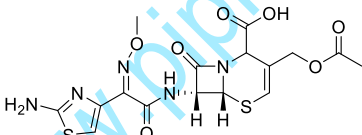
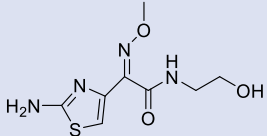
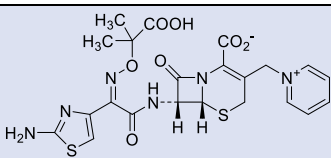
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|------------|----|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            |    |                                                                        |                                                                                                                                                                                                                                 | 383.80300                                                                                                                                                                                             |
|            |    | Mixture of<br>Impurity H(EP) &<br>Cefaclor<br>phenylglycine<br>isomers |                                                                                                                                               | <b>Chemical Formula:</b><br>C <sub>46</sub> H <sub>42</sub> Cl <sub>2</sub> N <sub>8</sub> O <sub>10</sub><br><b>S2</b><br><b>Exact Mass:</b><br>1000.18424<br><b>Molecular Weight:</b><br>1001.90800 |
| Cephradine | EP | Cephradine                                                             |  <p>Chemical Formula: C<sub>16</sub>H<sub>19</sub>N<sub>3</sub>O<sub>4</sub>S<br/>Exact Mass: 349.10963<br/>Molecular Weight: 349.40500</p>   | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>19</sub> N <sub>3</sub> O <sub>4</sub> S<br><b>Exact Mass:</b><br>349.10963<br><b>Molecular Weight:</b><br>349.40500                               |
|            |    | Impurity C                                                             |  <p>Chemical Formula: C<sub>16</sub>H<sub>19</sub>N<sub>3</sub>O<sub>5</sub>S<br/>Exact Mass: 365.10454<br/>Molecular Weight: 365.40400</p>  | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>19</sub> N <sub>3</sub> O <sub>5</sub> S<br><b>Exact Mass:</b><br>365.10454<br><b>Molecular Weight:</b><br>365.40400                               |
|            |    | Impurity D                                                             |  <p>Chemical Formula: C<sub>16</sub>H<sub>19</sub>N<sub>3</sub>O<sub>5</sub>S<br/>Exact Mass: 365.10454<br/>Molecular Weight: 365.40400</p> | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>19</sub> N <sub>3</sub> O <sub>5</sub> S<br><b>Exact Mass:</b><br>365.10454<br><b>Molecular Weight:</b><br>365.40400                               |
|            |    | Impurity E                                                             |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>3</sub>O<sub>5</sub>S<br/>Exact Mass: 363.08889<br/>Molecular Weight: 363.38800</p> | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> O <sub>5</sub> S<br><b>Exact Mass:</b><br>363.08889<br><b>Molecular Weight:</b><br>363.38800                               |

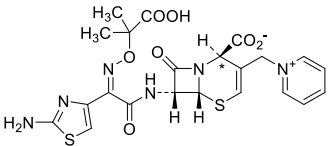
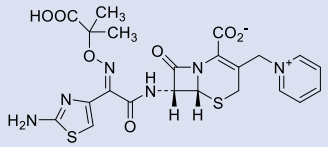
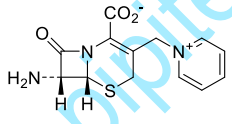
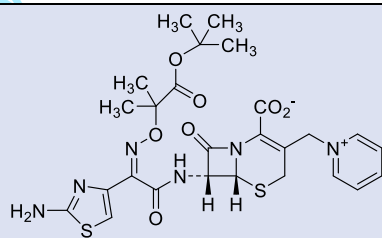
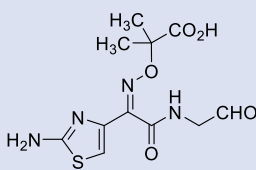
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|--------------------|----|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    |    | Impurity G                 |  <p>Chemical Formula: C<sub>13</sub>H<sub>18</sub>N<sub>2</sub>O<sub>4</sub>S<br/>Exact Mass: 298.09873<br/>Molecular Weight: 298.35700</p>                 | <b>Chemical Formula:</b><br>C <sub>13</sub> H <sub>18</sub> N <sub>2</sub> O <sub>4</sub> S<br><b>Exact Mass:</b><br>298.09873<br><b>Molecular Weight:</b><br>298.35700                |
|                    |    | 4',5'-Dihydrocephradine    |  <p>Chemical Formula: C<sub>16</sub>H<sub>21</sub>N<sub>3</sub>O<sub>4</sub>S<br/>Exact Mass: 351.12528<br/>Molecular Weight: 351.42100</p>                 | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>21</sub> N <sub>3</sub> O <sub>4</sub> S<br><b>Exact Mass:</b><br>351.12528<br><b>Molecular Weight:</b><br>351.42100                |
|                    |    | Tetrahydrocephradine       |  <p>Chemical Formula: C<sub>16</sub>H<sub>23</sub>N<sub>3</sub>O<sub>4</sub>S<br/>Exact Mass: 353.14093<br/>Molecular Weight: 353.43700</p>                 | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>23</sub> N <sub>3</sub> O <sub>4</sub> S<br><b>Exact Mass:</b><br>353.14093<br><b>Molecular Weight:</b><br>353.43700                |
|                    |    | Δ <sup>3</sup> -cephradine |  <p>Chemical Formula: C<sub>16</sub>H<sub>19</sub>N<sub>3</sub>O<sub>4</sub>S<br/>Exact Mass: 349.11<br/>Molecular Weight: 349.41</p>                     | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>19</sub> N <sub>3</sub> O <sub>4</sub> S<br><b>Exact Mass:</b><br>349.11<br><b>Molecular Weight:</b><br>349.41                      |
|                    |    |                            |                                                                                                                                                                                                                                               |                                                                                                                                                                                        |
| Ceftriaxone Sodium |    | Ceftriaxone Sodium         |  <p>Chemical Formula: C<sub>18</sub>H<sub>17</sub>N<sub>8</sub>NaO<sub>7</sub>S<sub>3</sub><br/>Exact Mass: 576.02800<br/>Molecular Weight: 576.55277</p> | <b>Chemical Formula:</b><br>C <sub>18</sub> H <sub>17</sub> N <sub>8</sub> NaO <sub>7</sub> S <sub>3</sub><br><b>Exact Mass:</b><br>576.02800<br><b>Molecular Weight:</b><br>576.55277 |
|                    | EP | Impurity A                 |  <p>Chemical Formula: C<sub>18</sub>H<sub>18</sub>N<sub>8</sub>O<sub>7</sub>S<sub>3</sub><br/>Exact Mass: 554.04606<br/>Molecular Weight: 554.57100</p>   | <b>Chemical Formula:</b><br>C <sub>18</sub> H <sub>18</sub> N <sub>8</sub> O <sub>7</sub> S <sub>3</sub><br><b>Exact Mass:</b><br>554.04606<br><b>Molecular Weight:</b><br>554.57100   |

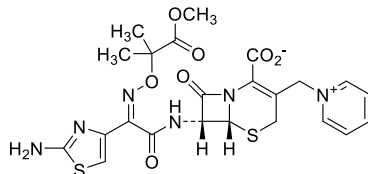
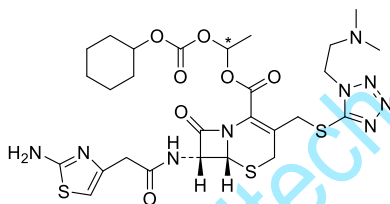
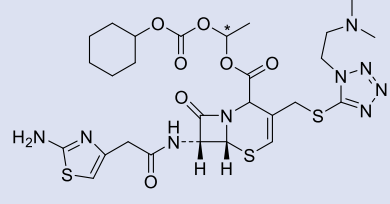
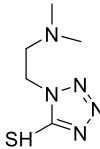
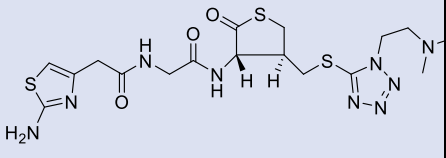
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|----|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                 |                                                                                                                                                                                                                                             | <b>Molecular Weight:</b><br>554.57100                                                                                                                                                |
| EP | Impurity B      |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 395.03581<br/>Molecular Weight: 395.40800</p>   | <b>Chemical Formula:</b><br>C <sub>14</sub> H <sub>13</sub> N <sub>5</sub> O <sub>5</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>395.03581<br><b>Molecular Weight:</b><br>395.40800 |
| EP | Impurity C      |  <p>Chemical Formula: C<sub>4</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub>S<br/>Exact Mass: 159.01025<br/>Molecular Weight: 159.16300</p>                 | <b>Chemical Formula:</b><br>C <sub>4</sub> H <sub>5</sub> N <sub>3</sub> O <sub>2</sub> S<br><b>Exact Mass:</b><br>159.01025<br><b>Molecular Weight:</b><br>159.16300                |
| EP | Impurity D      |  <p>Chemical Formula: C<sub>13</sub>H<sub>10</sub>N<sub>4</sub>O<sub>2</sub>S<sub>3</sub><br/>Exact Mass: 349.99659<br/>Molecular Weight: 350.42900</p>  | <b>Chemical Formula:</b><br>C <sub>13</sub> H <sub>10</sub> N <sub>4</sub> O <sub>2</sub> S <sub>3</sub><br><b>Exact Mass:</b><br>349.99659<br><b>Molecular Weight:</b><br>350.42900 |
| EP | Impurity E      |  <p>Chemical Formula: C<sub>12</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 371.03581<br/>Molecular Weight: 371.38600</p> | <b>Chemical Formula:</b><br>C <sub>12</sub> H <sub>13</sub> N <sub>5</sub> O <sub>5</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>371.03581<br><b>Molecular Weight:</b><br>371.38600 |
|    | Δ3- Ceftriaxone |  <p>Chemical Formula: C<sub>18</sub>H<sub>18</sub>N<sub>6</sub>O<sub>7</sub>S<sub>3</sub><br/>Exact Mass: 554.04606<br/>Molecular Weight: 554.57100</p> | <b>Chemical Formula:</b><br>C <sub>18</sub> H <sub>18</sub> N <sub>6</sub> O <sub>7</sub> S <sub>3</sub><br><b>Exact Mass:</b><br>554.04606<br><b>Molecular Weight:</b><br>554.57100 |

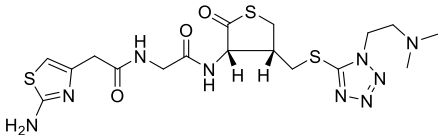
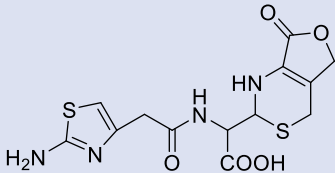
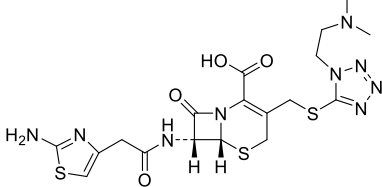
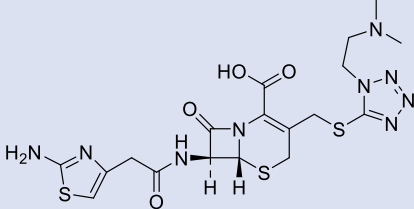
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|--------------------------|----|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |    | Ceftriaxone Oxide<br><br>Impurity |  <p>Chemical Formula: <math>C_{18}H_{18}N_8O_8S_3</math><br/>Exact Mass: 570.04097<br/>Molecular Weight: 570.57000</p>   | <b>Chemical Formula:</b><br><b><math>C_{18}H_{18}N_8O_8S_3</math></b><br><b>Exact Mass:</b><br><b>570.04097</b><br><b>Molecular Weight:</b><br><b>570.57000</b>   |
|                          |    |                                   |                                                                                                                                                                                                            |                                                                                                                                                                   |
| Cefotaxime<br><br>Sodium |    | Cefotaxime<br><br>Sodium          |  <p>Chemical Formula: <math>C_{16}H_{16}N_5NaO_7S_2</math><br/>Exact Mass: 477.03888<br/>Molecular Weight: 477.44177</p> | <b>Chemical Formula:</b><br><b><math>C_{16}H_{16}N_5NaO_7S_2</math></b><br><b>Exact Mass:</b><br><b>477.03888</b><br><b>Molecular Weight:</b><br><b>477.44177</b> |
|                          | EP | Impurity A                        |  <p>Chemical Formula: <math>C_{14}H_{15}N_5O_5S_2</math><br/>Exact Mass: 397.05146<br/>Molecular Weight: 397.42400</p>  | <b>Chemical Formula:</b><br><b><math>C_{14}H_{15}N_5O_5S_2</math></b><br><b>Exact Mass:</b><br><b>397.05146</b><br><b>Molecular Weight:</b><br><b>397.42400</b>   |
|                          | EP | Impurity B                        |  <p>Chemical Formula: <math>C_{14}H_{15}N_5O_6S_2</math><br/>Exact Mass: 413.04637<br/>Molecular Weight: 413.42300</p> | <b>Chemical Formula:</b><br><b><math>C_{14}H_{15}N_5O_6S_2</math></b><br><b>Exact Mass:</b><br><b>413.04637</b><br><b>Molecular Weight:</b><br><b>413.42300</b>   |
|                          | EP | Impurity C                        |  <p>Chemical Formula: <math>C_{17}H_{17}N_5O_8S_2</math><br/>Exact Mass: 483.05185<br/>Molecular Weight: 483.47000</p> | <b>Chemical Formula:</b><br><b><math>C_{17}H_{17}N_5O_8S_2</math></b><br><b>Exact Mass:</b><br><b>483.05185</b><br><b>Molecular Weight:</b><br><b>483.47000</b>   |

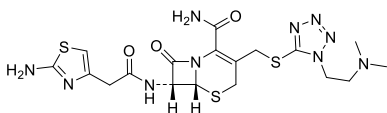
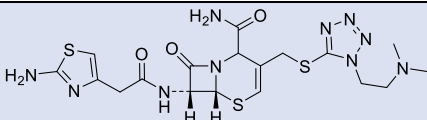
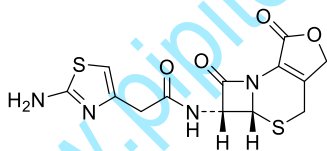
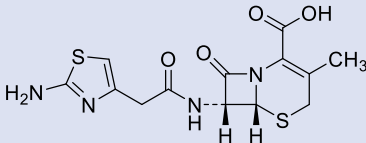
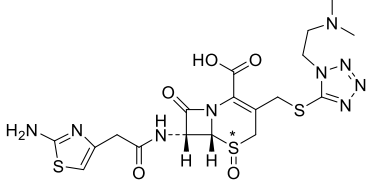
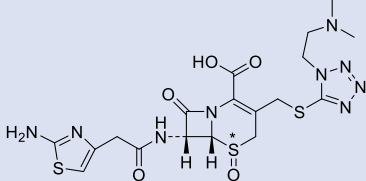
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|--|----|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | EP | Impurity D                       |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>5</sub>O<sub>7</sub>S<sub>2</sub><br/>Exact Mass: 455.05694<br/>Molecular Weight: 455.46000</p>    | <p><b>Chemical Formula:</b><br/><b>C<sub>16</sub>H<sub>17</sub>N<sub>5</sub>O<sub>7</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>455.05694</b></p> <p><b>Molecular Weight:</b><br/><b>455.46000</b></p>   |
|  | EP | Impurity E                       |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 395.03581<br/>Molecular Weight: 395.40800</p>    | <p><b>Chemical Formula:</b><br/><b>C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>395.03581</b></p> <p><b>Molecular Weight:</b><br/><b>395.40800</b></p>   |
|  | EP | Impurity F                       |  <p>Chemical Formula: C<sub>30</sub>H<sub>30</sub>N<sub>10</sub>O<sub>12</sub>S<sub>4</sub><br/>Exact Mass: 850.09275<br/>Molecular Weight: 850.86800</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>30</sub>H<sub>30</sub>N<sub>10</sub>O<sub>12</sub>S<sub>4</sub></b></p> <p><b>Exact Mass:</b><br/><b>850.09275</b></p> <p><b>Molecular Weight:</b><br/><b>850.86800</b></p> |
|  | EP | Impurity G                       |  <p>Chemical Formula: C<sub>22</sub>H<sub>22</sub>N<sub>8</sub>O<sub>9</sub>S<sub>3</sub><br/>Exact Mass: 638.06719<br/>Molecular Weight: 638.64500</p>  | <p><b>Chemical Formula:</b><br/><b>C<sub>22</sub>H<sub>22</sub>N<sub>8</sub>O<sub>9</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>638.06719</b></p> <p><b>Molecular Weight:</b><br/><b>638.64500</b></p>   |
|  |    | E-Deacylation<br>Cefotaxime acid |  <p>Chemical Formula: C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 413.04637<br/>Molecular Weight: 413.42880</p>  | <p><b>Chemical Formula:</b><br/><b>C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>413.04637</b></p> <p><b>Molecular Weight:</b><br/><b>413.42880</b></p>   |

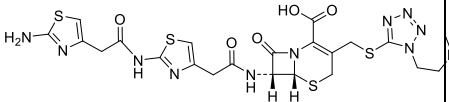
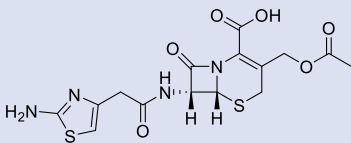
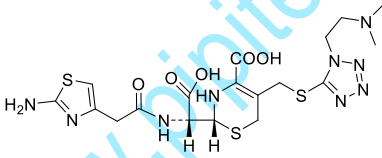
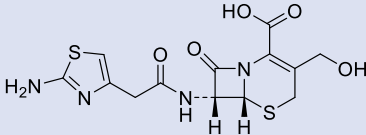
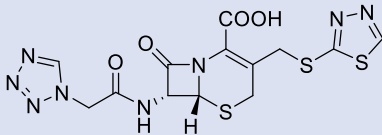
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|-------------|--|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |  | E-Deacylated<br>cefotaxime<br>5-membered ring<br>lactone   |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 395.03581<br/>Molecular Weight: 395.40800</p> | <p>Chemical<br/>Formula:<br/>C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass:<br/>395.03581<br/>Molecular Weight:<br/>395.40800</p> |
|             |  | Cefotaxime<br>ring-opening<br>lactone                      |  <p>Chemical Formula: C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 413.04637<br/>Molecular Weight: 413.42300</p> | <p>Chemical<br/>Formula:<br/>C<sub>14</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass:<br/>413.04637<br/>Molecular Weight:<br/>413.42300</p> |
|             |  | Δ <sup>3</sup> - Cefotaxime                                |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>5</sub>O<sub>7</sub>S<sub>2</sub><br/>Exact Mass: 455.05694<br/>Molecular Weight: 455.46000</p> | <p>Chemical<br/>Formula:<br/>C<sub>16</sub>H<sub>17</sub>N<sub>5</sub>O<sub>7</sub>S<sub>2</sub><br/>Exact Mass:<br/>455.05694<br/>Molecular Weight:<br/>455.46000</p> |
|             |  | Cefotaxime<br>tetracyclic lactam<br>cleavage<br>precursors |  <p>Chemical Formula: C<sub>8</sub>H<sub>12</sub>N<sub>4</sub>O<sub>3</sub>S<br/>Exact Mass: 244.06301<br/>Molecular Weight: 244.26900</p>            | <p>Chemical<br/>Formula:<br/>C<sub>8</sub>H<sub>12</sub>N<sub>4</sub>O<sub>3</sub>S<br/>Exact Mass:<br/>244.06301<br/>Molecular Weight:<br/>244.26900</p>              |
|             |  |                                                            |                                                                                                                                                                                                                                           |                                                                                                                                                                        |
| Ceftazidime |  | Ceftazidime                                                |  <p>Chemical Formula: C<sub>22</sub>H<sub>22</sub>N<sub>6</sub>O<sub>7</sub>S<sub>2</sub><br/>Exact Mass: 546.10<br/>Molecular Weight: 546.57</p>     | <p>Chemical<br/>Formula:<br/>C<sub>22</sub>H<sub>22</sub>N<sub>6</sub>O<sub>7</sub>S<sub>2</sub><br/>Exact Mass:<br/>546.10<br/>Molecular Weight:<br/>546.57</p>       |

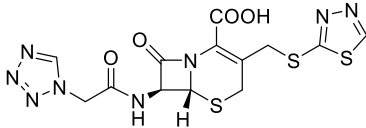
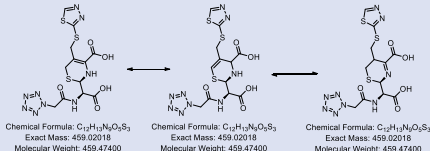
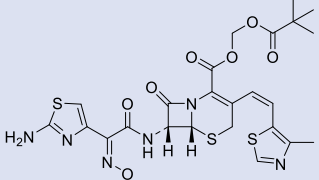
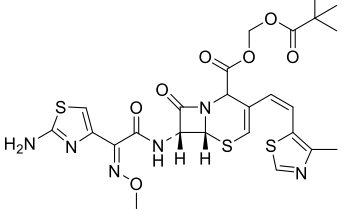
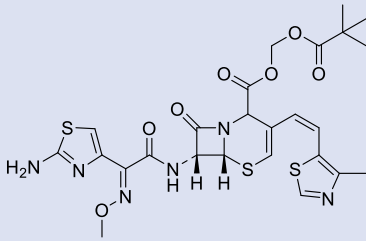
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|  | EP | Impurity A |  <p>Chemical Formula: <math>C_{22}H_{22}N_6O_7S_2</math><br/>Exact Mass: 546.09914<br/>Molecular Weight: 546.57300</p>   | <p><b>Chemical Formula:</b><br/><b>C22H22N6O7S2</b></p> <p><b>Exact Mass:</b><br/><b>546.09914</b></p> <p><b>Molecular Weight:</b><br/><b>546.57300</b></p> |
|  | EP | Impurity B |  <p>Chemical Formula: <math>C_{22}H_{22}N_6O_7S_2</math><br/>Exact Mass: 546.09914<br/>Molecular Weight: 546.57300</p>   | <p><b>Chemical Formula:</b><br/><b>C22H22N6O7S2</b></p> <p><b>Exact Mass:</b><br/><b>546.09914</b></p> <p><b>Molecular Weight:</b><br/><b>546.57300</b></p> |
|  | EP | Impurity C |  <p>Chemical Formula: <math>C_{13}H_{13}N_3O_3S</math><br/>Exact Mass: 291.06776<br/>Molecular Weight: 291.32500</p>     | <p><b>Chemical Formula:</b><br/><b>C13H13N3O3S</b></p> <p><b>Exact Mass:</b><br/><b>291.06776</b></p> <p><b>Molecular Weight:</b><br/><b>291.32500</b></p>  |
|  | EP | Impurity E |  <p>Chemical Formula: <math>C_{26}H_{30}N_6O_7S_2</math><br/>Exact Mass: 602.16174<br/>Molecular Weight: 602.68100</p> | <p><b>Chemical Formula:</b><br/><b>C26H30N6O7S2</b></p> <p><b>Exact Mass:</b><br/><b>602.16174</b></p> <p><b>Molecular Weight:</b><br/><b>602.68100</b></p> |
|  | EP | Impurity F |  <p>Chemical Formula: <math>C_5H_5N</math><br/>Exact Mass: 79.04220<br/>Molecular Weight: 79.10200</p>                 | <p><b>Chemical Formula:</b><br/><b>C5H5N</b></p> <p><b>Exact Mass:</b><br/><b>79.04220</b></p> <p><b>Molecular Weight:</b><br/><b>79.10200</b></p>          |
|  | EP | Impurity G |  <p>Chemical Formula: <math>C_{11}H_{14}N_4O_5S</math><br/>Exact Mass: 314.06849<br/>Molecular Weight: 314.31600</p>   | <p><b>Chemical Formula:</b><br/><b>C11H14N4O5S</b></p> <p><b>Exact Mass:</b><br/><b>314.06849</b></p> <p><b>Molecular Weight:</b><br/><b>314.31600</b></p>  |

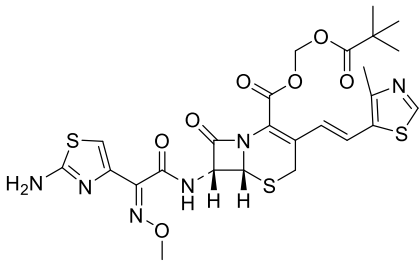
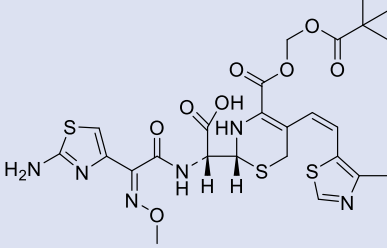
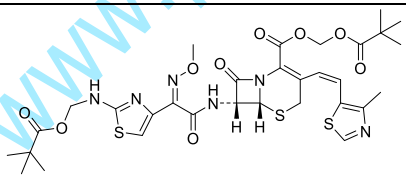
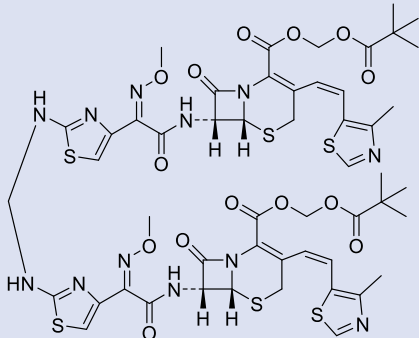
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|-------------------------|----|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | EP | Impurity H       | <div></div> <div>Chemical Formula: C<sub>23</sub>H<sub>24</sub>N<sub>6</sub>O<sub>7</sub>S<sub>2</sub><br/>Exact Mass: 560.11479<br/>Molecular Weight: 560.60000</div>   | Chemical<br>Formula:<br>C <sub>23</sub> H <sub>24</sub> N <sub>6</sub> O <sub>7</sub> S <sub>2</sub><br>Exact Mass:<br>560.11479<br>Molecular Weight:<br>560.60000 |
|                         |    |                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                    |
| Cefotiam<br><br>Hexetil |    | Cefotiam Hexetil | <div></div> <div>Chemical Formula: C<sub>27</sub>H<sub>37</sub>N<sub>9</sub>O<sub>7</sub>S<sub>3</sub><br/>Exact Mass: 695.19781<br/>Molecular Weight: 695.82900</div>   | Chemical<br>Formula:<br>C <sub>27</sub> H <sub>37</sub> N <sub>9</sub> O <sub>7</sub> S <sub>3</sub><br>Exact Mass:<br>695.19781<br>Molecular Weight:<br>695.82900 |
|                         | JP | Impurity A       | <div></div> <div>Chemical Formula: C<sub>27</sub>H<sub>37</sub>N<sub>9</sub>O<sub>7</sub>S<sub>3</sub><br/>Exact Mass: 695.19781<br/>Molecular Weight: 695.82900</div>  | Chemical<br>Formula:<br>C <sub>27</sub> H <sub>37</sub> N <sub>9</sub> O <sub>7</sub> S <sub>3</sub><br>Exact Mass:<br>695.19781<br>Molecular Weight:<br>695.82900 |
|                         | JP | Impurity B       | <div></div> <div>Chemical Formula: C<sub>5</sub>H<sub>11</sub>N<sub>5</sub>S<br/>Exact Mass: 173.07352<br/>Molecular Weight: 173.23800</div>                           | Chemical<br>Formula:<br>C <sub>5</sub> H <sub>11</sub> N <sub>5</sub> S<br>Exact Mass:<br>173.07352<br>Molecular Weight:<br>173.23800                              |
|                         | JP | Impurity C       | <div></div> <div>Chemical Formula: C<sub>17</sub>H<sub>25</sub>N<sub>9</sub>O<sub>3</sub>S<sub>3</sub><br/>Exact Mass: 499.12425<br/>Molecular Weight: 499.62700</div> | Chemical<br>Formula:<br>C <sub>17</sub> H <sub>25</sub> N <sub>9</sub> O <sub>3</sub> S <sub>3</sub><br>Exact Mass:<br>499.12425<br>Molecular Weight:<br>499.62700 |

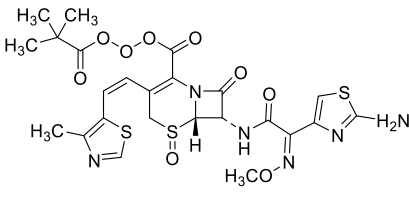
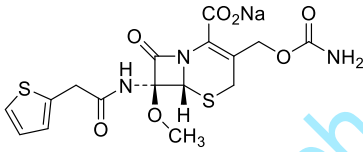
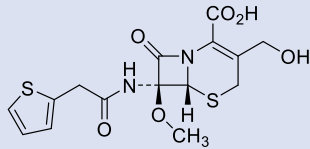
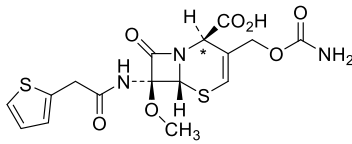
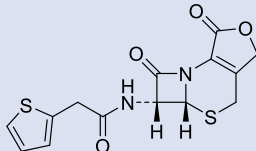
|          |    |                 |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                    |
|----------|----|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | JP | Impurity D      |  <p>Chemical Formula: C<sub>17</sub>H<sub>25</sub>N<sub>9</sub>O<sub>3</sub>S<sub>3</sub><br/>Exact Mass: 499.12425<br/>Molecular Weight: 499.62700</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>17</sub>H<sub>25</sub>N<sub>9</sub>O<sub>3</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>499.12425</b></p> <p><b>Molecular Weight:</b><br/><b>499.62700</b></p> |
|          | JP | Impurity E      |  <p>Chemical Formula: C<sub>13</sub>H<sub>14</sub>N<sub>4</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 370.04056<br/>Molecular Weight: 370.39800</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>13</sub>H<sub>14</sub>N<sub>4</sub>O<sub>5</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>370.04056</b></p> <p><b>Molecular Weight:</b><br/><b>370.39800</b></p> |
|          | JP | Impurity F      |  <p>Chemical Formula: C<sub>18</sub>H<sub>23</sub>N<sub>9</sub>O<sub>4</sub>S<sub>3</sub><br/>Exact Mass: 525.10351<br/>Molecular Weight: 525.62100</p>  | <p><b>Chemical Formula:</b><br/><b>C<sub>18</sub>H<sub>23</sub>N<sub>9</sub>O<sub>4</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>525.10351</b></p> <p><b>Molecular Weight:</b><br/><b>525.62100</b></p> |
|          |    |                 |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                    |
| Cefotiam |    | Cefotiam        |  <p>Chemical Formula: C<sub>18</sub>H<sub>23</sub>N<sub>9</sub>O<sub>4</sub>S<sub>3</sub><br/>Exact Mass: 525.10351<br/>Molecular Weight: 525.62100</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>18</sub>H<sub>23</sub>N<sub>9</sub>O<sub>4</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>525.10351</b></p> <p><b>Molecular Weight:</b><br/><b>525.62100</b></p> |
|          |    | 6R,7S- Cefotiam |  <p>Chemical Formula: C<sub>18</sub>H<sub>23</sub>N<sub>9</sub>O<sub>4</sub>S<sub>3</sub><br/>Exact Mass: 525.10351<br/>Molecular Weight: 525.62100</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>18</sub>H<sub>23</sub>N<sub>9</sub>O<sub>4</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>525.10351</b></p> <p><b>Molecular Weight:</b><br/><b>525.62100</b></p> |

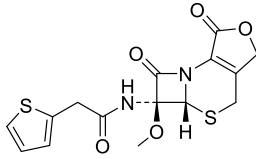
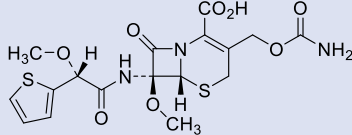
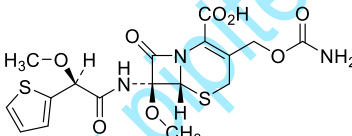
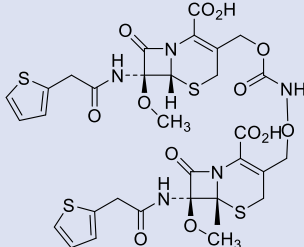
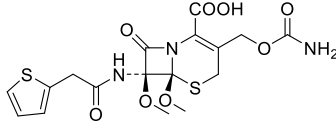
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|--|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | NH2- Cefotiam                |  <p>Chemical Formula: C<sub>18</sub>H<sub>24</sub>N<sub>10</sub>O<sub>3</sub>S<sub>3</sub><br/>Exact Mass: 524.11950<br/>Molecular Weight: 524.63700</p>  | <p><b>Chemical Formula:</b><br/><b>C<sub>18</sub>H<sub>24</sub>N<sub>10</sub>O<sub>3</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>524.11950</b></p> <p><b>Molecular Weight:</b><br/><b>524.63700</b></p> |
|  | Δ3-NH2-<br>Cefotiam          |  <p>Chemical Formula: C<sub>18</sub>H<sub>24</sub>N<sub>10</sub>O<sub>3</sub>S<sub>3</sub><br/>Exact Mass: 524.11950<br/>Molecular Weight: 524.63700</p>  | <p><b>Chemical Formula:</b><br/><b>C<sub>18</sub>H<sub>24</sub>N<sub>10</sub>O<sub>3</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>524.11950</b></p> <p><b>Molecular Weight:</b><br/><b>524.63700</b></p> |
|  | Cefotiam Lactone             |  <p>Chemical Formula: C<sub>13</sub>H<sub>12</sub>N<sub>4</sub>O<sub>4</sub>S<sub>2</sub><br/>Exact Mass: 352.03000<br/>Molecular Weight: 352.38300</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>13</sub>H<sub>12</sub>N<sub>4</sub>O<sub>4</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>352.03000</b></p> <p><b>Molecular Weight:</b><br/><b>352.38300</b></p>  |
|  | 3 -methyl-cefotiam           |  <p>Chemical Formula: C<sub>13</sub>H<sub>14</sub>N<sub>4</sub>O<sub>4</sub>S<sub>2</sub><br/>Exact Mass: 354.04565<br/>Molecular Weight: 354.39900</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>13</sub>H<sub>14</sub>N<sub>4</sub>O<sub>4</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>354.04565</b></p> <p><b>Molecular Weight:</b><br/><b>354.39900</b></p>  |
|  | Cefotiam Oxide<br>Impurity 1 |  <p>Chemical Formula: C<sub>18</sub>H<sub>23</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass: 541.09843<br/>Molecular Weight: 541.62000</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>18</sub>H<sub>23</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>541.09843</b></p> <p><b>Molecular Weight:</b><br/><b>541.62000</b></p>  |
|  | Cefotiam Oxide<br>Impurity 2 |  <p>Chemical Formula: C<sub>18</sub>H<sub>23</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass: 541.09843<br/>Molecular Weight: 541.62000</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>18</sub>H<sub>23</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>541.09843</b></p> <p><b>Molecular Weight:</b><br/><b>541.62000</b></p>  |

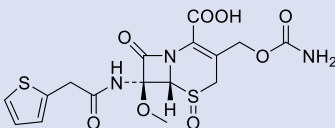
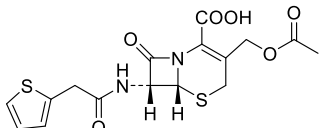
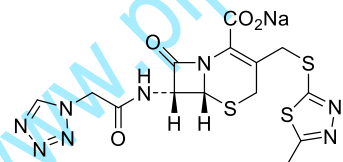
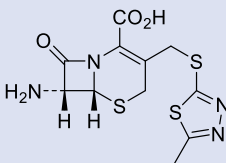
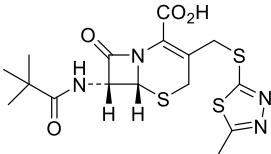
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|-----------|--|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|           |  | Cefotiam Bilateral<br><br>chain    |  <p>Chemical Formula: <math>C_{23}H_{27}N_{11}O_5S_4</math><br/>Exact Mass: 665.10795<br/>Molecular Weight: 665.78100</p> | <b>Chemical Formula:</b><br><b>C23H27N11O5S4</b><br><b>Exact Mass:</b><br><b>665.10795</b><br><b>Molecular Weight:</b><br><b>665.78100</b> |
|           |  | 3 - acetoxy<br><br>cefotiam        |  <p>Chemical Formula: <math>C_{15}H_{16}N_4O_6S_2</math><br/>Exact Mass: 412.05113<br/>Molecular Weight: 412.43500</p>    | <b>Chemical Formula:</b><br><b>C15H16N4O6S2</b><br><b>Exact Mass:</b><br><b>412.05113</b><br><b>Molecular Weight:</b><br><b>412.43500</b>  |
|           |  | Cefotiam Open<br><br>Ring Impurity |  <p>Chemical Formula: <math>C_{18}H_{25}N_9O_5S_3</math><br/>Exact Mass: 543.11408<br/>Molecular Weight: 543.63600</p>    | <b>Chemical Formula:</b><br><b>C18H25N9O5S3</b><br><b>Exact Mass:</b><br><b>543.11408</b><br><b>Molecular Weight:</b><br><b>543.63600</b>  |
|           |  | Detetrazole-Cefoti<br><br>am       |  <p>Chemical Formula: <math>C_{13}H_{14}N_4O_5S_2</math><br/>Exact Mass: 370.04056<br/>Molecular Weight: 370.39800</p>  | <b>Chemical Formula:</b><br><b>C13H14N4O5S2</b><br><b>Exact Mass:</b><br><b>370.04056</b><br><b>Molecular Weight:</b><br><b>370.39800</b>  |
|           |  |                                    |                                                                                                                                                                                                             |                                                                                                                                            |
| Ceftezole |  | Ceftezole                          |  <p>Chemical Formula: <math>C_{13}H_{12}N_8O_4S_3</math><br/>Exact Mass: 440.01436<br/>Molecular Weight: 440.47100</p>  | <b>Chemical Formula:</b><br><b>C13H12N8O4S3</b><br><b>Exact Mass:</b><br><b>440.01436</b><br><b>Molecular Weight:</b><br><b>440.47100</b>  |

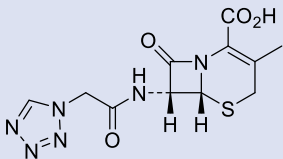
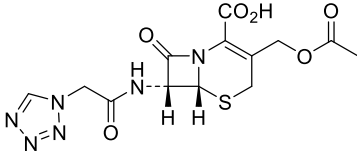
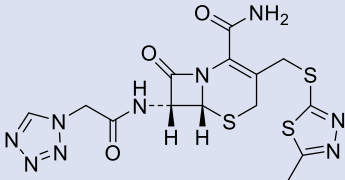
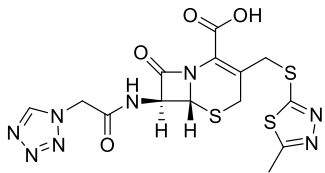
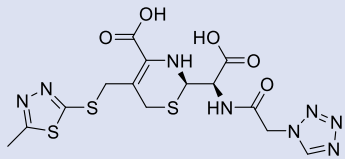
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|---------------------------|--|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           |  | Impurity 1                         |  <p>Chemical Formula: <math>C_{13}H_{12}N_8O_4S_3</math><br/>Exact Mass: 440.01436<br/>Molecular Weight: 440.47100</p>                                                                                                                                                                                                                                             | <p>Chemical Formula:<br/><b><math>C_{13}H_{12}N_8O_4S_3</math></b></p> <p>Exact Mass:<br/><b>440.01436</b></p> <p>Molecular Weight:<br/><b>440.47100</b></p> |
|                           |  | Impurity 2                         |  <p>Chemical Formula: <math>C_{12}H_{13}N_9O_5S_3</math><br/>Exact Mass: 459.02018<br/>Molecular Weight: 459.47400</p> <p>Chemical Formula: <math>C_{12}H_{13}N_9O_5S_3</math><br/>Exact Mass: 459.02018<br/>Molecular Weight: 459.47400</p> <p>Chemical Formula: <math>C_{12}H_{13}N_9O_5S_3</math><br/>Exact Mass: 459.02018<br/>Molecular Weight: 459.47400</p> | <p>Chemical Formula:<br/><b><math>C_{12}H_{13}N_9O_5S_3</math></b></p> <p>Exact Mass:<br/><b>459.02018</b></p> <p>Molecular Weight:<br/><b>459.47400</b></p> |
|                           |  |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                              |
| Cefditoren<br><br>Pivoxil |  | Cefditoren Pivoxil                 |  <p>Chemical Formula: <math>C_{25}H_{28}N_6O_7S_3</math><br/>Exact Mass: 620.11816<br/>Molecular Weight: 620.71400</p>                                                                                                                                                                                                                                            | <p>Chemical Formula:<br/><b><math>C_{25}H_{28}N_6O_7S_3</math></b></p> <p>Exact Mass:<br/><b>620.11816</b></p> <p>Molecular Weight:<br/><b>620.71400</b></p> |
|                           |  | $\Delta^3$ - Cefditoren<br>Pivoxil |  <p>Chemical Formula: <math>C_{25}H_{28}N_6O_7S_3</math><br/>Exact Mass: 620.11816<br/>Molecular Weight: 620.71400</p>                                                                                                                                                                                                                                           | <p>Chemical Formula:<br/><b><math>C_{25}H_{28}N_6O_7S_3</math></b></p> <p>Exact Mass:<br/><b>620.11816</b></p> <p>Molecular Weight:<br/><b>620.71400</b></p> |
|                           |  | 7E- Cefditoren<br>Pivoxil          |  <p>Chemical Formula: <math>C_{25}H_{28}N_6O_7S_3</math><br/>Exact Mass: 620.11816<br/>Molecular Weight: 620.71400</p>                                                                                                                                                                                                                                           | <p>Chemical Formula:<br/><b><math>C_{25}H_{28}N_6O_7S_3</math></b></p> <p>Exact Mass:<br/><b>620.11816</b></p> <p>Molecular Weight:<br/><b>620.71400</b></p> |

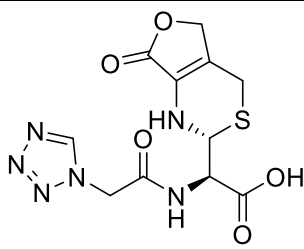
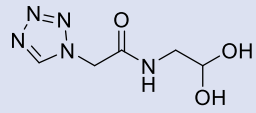
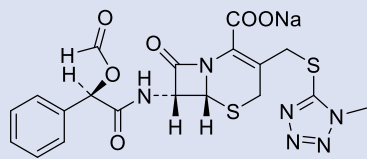
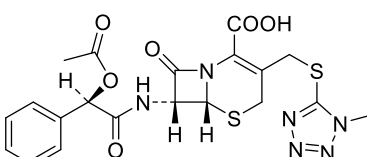
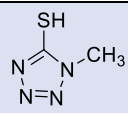
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|  |  | <p>3 E- Cefditoren</p> <p>Pivoxil</p>                      |  <p>Chemical Formula: <math>C_{25}H_{28}N_6O_7S_3</math><br/>Exact Mass: 620.11816<br/>Molecular Weight: 620.71400</p>           | <p>Chemical Formula: <math>C_{25}H_{28}N_6O_7S_3</math><br/>Exact Mass: 620.11816<br/>Molecular Weight: 620.71400</p>         |
|  |  | <p>Cefditoren Pivoxil</p> <p>Open ring</p> <p>Impurity</p> |  <p>Chemical Formula: <math>C_{25}H_{30}N_6O_8S_3</math><br/>Exact Mass: 638.12872<br/>Molecular Weight: 638.72900</p>           | <p>Chemical Formula: <math>C_{25}H_{30}N_6O_8S_3</math><br/>Exact Mass: 638.12872<br/>Molecular Weight: 638.72900</p>         |
|  |  | <p>Cefditoren dual</p> <p>ester</p>                        |  <p>Chemical Formula: <math>C_{31}H_{38}N_6O_9S_3</math><br/>Exact Mass: 734.18624<br/>Molecular Weight: 734.85800</p>          | <p>Chemical Formula: <math>C_{31}H_{38}N_6O_9S_3</math><br/>Exact Mass: 734.18624<br/>Molecular Weight: 734.85800</p>         |
|  |  | <p>Cefditoren Pivoxil</p> <p>Dimer</p>                     |  <p>Chemical Formula: <math>C_{51}H_{56}N_{12}O_{14}S_6</math><br/>Exact Mass: 1252.23632<br/>Molecular Weight: 1253.43900</p> | <p>Chemical Formula: <math>C_{51}H_{56}N_{12}O_{14}S_6</math><br/>Exact Mass: 1252.23632<br/>Molecular Weight: 1253.43900</p> |

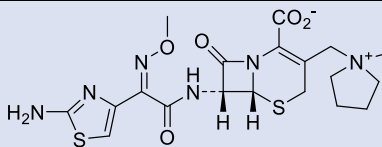
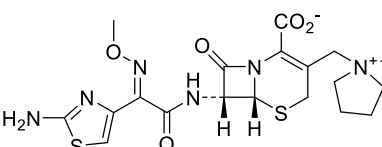
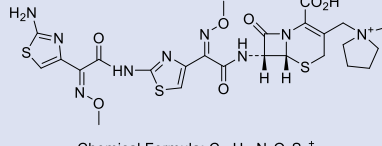
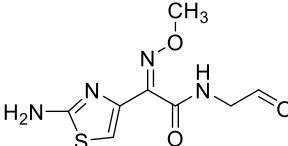
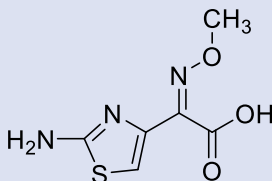
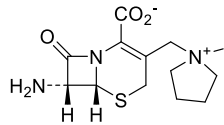
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|-----------|----|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |    | Cefditoren Pivoxil<br><br>Oxide impurity |  <p>Chemical Formula: <math>C_{24}H_{26}N_6O_9S_3</math><br/>Exact Mass: 638.09234<br/>Molecular Weight: 638.68500</p>    | <b>Chemical Formula:</b><br><b><math>C_{24}H_{26}N_6O_9S_3</math></b><br><b>Exact Mass:</b><br><b>638.09234</b><br><b>Molecular Weight:</b><br><b>638.68500</b>   |
|           |    |                                          |                                                                                                                                                                                                             |                                                                                                                                                                   |
| Cefoxitin |    | Cefoxitin                                |  <p>Chemical Formula: <math>C_{16}H_{16}N_3NaO_7S_2</math><br/>Exact Mass: 449.03274<br/>Molecular Weight: 449.42777</p>  | <b>Chemical Formula:</b><br><b><math>C_{16}H_{16}N_3NaO_7S_2</math></b><br><b>Exact Mass:</b><br><b>449.03274</b><br><b>Molecular Weight:</b><br><b>449.42777</b> |
|           | EP | Impurity A                               |  <p>Chemical Formula: <math>C_{15}H_{15}N_2NaO_6S_2</math><br/>Exact Mass: 406.02692<br/>Molecular Weight: 406.40277</p> | <b>Chemical Formula:</b><br><b><math>C_{15}H_{15}N_2NaO_6S_2</math></b><br><b>Exact Mass:</b><br><b>406.02692</b><br><b>Molecular Weight:</b><br><b>406.40277</b> |
|           | EP | Impurity B                               |  <p>Chemical Formula: <math>C_{16}H_{17}N_3O_7S_2</math><br/>Exact Mass: 427.05079<br/>Molecular Weight: 427.44600</p>  | <b>Chemical Formula:</b><br><b><math>C_{16}H_{17}N_3O_7S_2</math></b><br><b>Exact Mass:</b><br><b>427.05079</b><br><b>Molecular Weight:</b><br><b>427.44600</b>   |
|           | EP | Impurity C                               |  <p>Chemical Formula: <math>C_{14}H_{12}N_2O_4S_2</math><br/>Exact Mass: 336.02385<br/>Molecular Weight: 336.38000</p>  | <b>Chemical Formula:</b><br><b><math>C_{14}H_{12}N_2O_4S_2</math></b><br><b>Exact Mass:</b><br><b>336.02385</b><br><b>Molecular Weight:</b><br><b>336.38000</b>   |

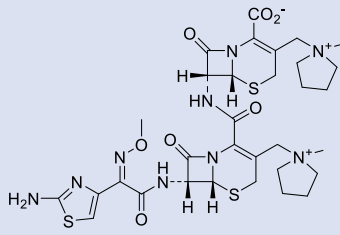
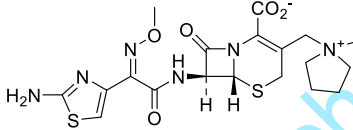
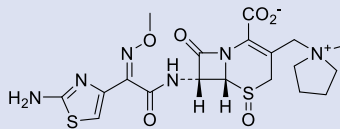
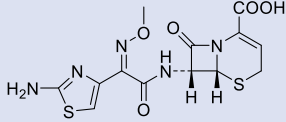
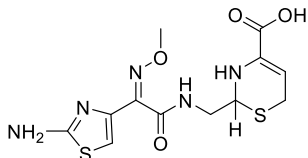
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|--|----|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | EP | Impurity D                    |  <p>Chemical Formula: C<sub>15</sub>H<sub>14</sub>N<sub>2</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 366.03441<br/>Molecular Weight: 366.40600</p>    | <p>Chemical Formula:<br/><b>C<sub>15</sub>H<sub>14</sub>N<sub>2</sub>O<sub>5</sub>S<sub>2</sub></b><br/>Exact Mass:<br/><b>366.03441</b><br/>Molecular Weight:<br/><b>366.40600</b></p>  |
|  | EP | Impurity E                    |  <p>Chemical Formula: C<sub>17</sub>H<sub>19</sub>N<sub>3</sub>O<sub>8</sub>S<sub>2</sub><br/>Exact Mass: 457.06136<br/>Molecular Weight: 457.47200</p>    | <p>Chemical Formula:<br/><b>C<sub>17</sub>H<sub>19</sub>N<sub>3</sub>O<sub>8</sub>S<sub>2</sub></b><br/>Exact Mass:<br/><b>457.06136</b><br/>Molecular Weight:<br/><b>457.47200</b></p>  |
|  | EP | Impurity F                    |  <p>Chemical Formula: C<sub>17</sub>H<sub>19</sub>N<sub>3</sub>O<sub>8</sub>S<sub>2</sub><br/>Exact Mass: 457.06136<br/>Molecular Weight: 457.47200</p>    | <p>Chemical Formula:<br/><b>C<sub>17</sub>H<sub>19</sub>N<sub>3</sub>O<sub>8</sub>S<sub>2</sub></b><br/>Exact Mass:<br/><b>457.06136</b><br/>Molecular Weight:<br/><b>457.47200</b></p>  |
|  | EP | Impurity G                    |  <p>Chemical Formula: C<sub>32</sub>H<sub>33</sub>N<sub>5</sub>O<sub>13</sub>S<sub>4</sub><br/>Exact Mass: 823.09577<br/>Molecular Weight: 823.87800</p> | <p>Chemical Formula:<br/><b>C<sub>32</sub>H<sub>33</sub>N<sub>5</sub>O<sub>13</sub>S<sub>4</sub></b><br/>Exact Mass:<br/><b>823.09577</b><br/>Molecular Weight:<br/><b>823.87800</b></p> |
|  |    | Intermediate of<br>Impurity C |  <p>Chemical Formula: C<sub>17</sub>H<sub>19</sub>N<sub>3</sub>O<sub>8</sub>S<sub>2</sub><br/>Exact Mass: 457.06136<br/>Molecular Weight: 457.47200</p>  | <p>Chemical Formula:<br/><b>C<sub>17</sub>H<sub>19</sub>N<sub>3</sub>O<sub>8</sub>S<sub>2</sub></b><br/>Exact Mass:<br/><b>457.06136</b><br/>Molecular Weight:<br/><b>457.47200</b></p>  |

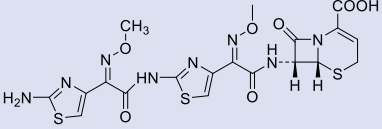
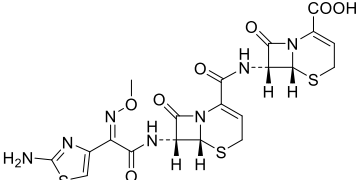
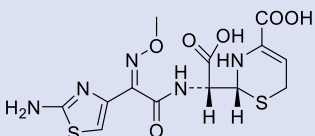
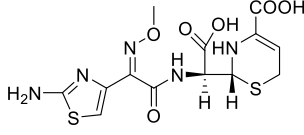
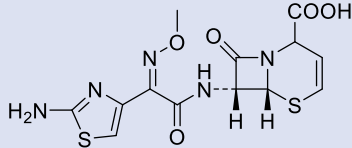
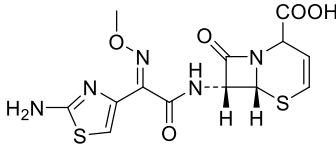
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|-------------------------|----|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         |    | Cefoxitin Oxide<br><br>Impurity |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>3</sub>O<sub>8</sub>S<sub>2</sub><br/>Exact Mass: 443.04571<br/>Molecular Weight: 443.44500</p>    | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> O <sub>8</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>443.04571<br><b>Molecular Weight:</b><br>443.44500   |
|                         |    | Impurity H                      |  <p>Chemical Formula: C<sub>16</sub>H<sub>16</sub>N<sub>2</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 396.04498<br/>Molecular Weight: 396.43200</p>    | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>16</sub> N <sub>2</sub> O <sub>6</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>396.04498<br><b>Molecular Weight:</b><br>396.43200   |
|                         |    |                                 |                                                                                                                                                                                                                                              |                                                                                                                                                                                        |
| Cefazolin<br><br>Sodium |    | Cefazolin Sodium                |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>8</sub>NaO<sub>4</sub>S<sub>3</sub><br/>Exact Mass: 476.01196<br/>Molecular Weight: 476.47977</p> | <b>Chemical Formula:</b><br>C <sub>14</sub> H <sub>13</sub> N <sub>8</sub> NaO <sub>4</sub> S <sub>3</sub><br><b>Exact Mass:</b><br>476.01196<br><b>Molecular Weight:</b><br>476.47977 |
|                         | EP | Impurity A                      |  <p>Chemical Formula: C<sub>11</sub>H<sub>12</sub>N<sub>4</sub>O<sub>3</sub>S<sub>3</sub><br/>Exact Mass: 344.00715<br/>Molecular Weight: 344.42200</p>  | <b>Chemical Formula:</b><br>C <sub>11</sub> H <sub>12</sub> N <sub>4</sub> O <sub>3</sub> S <sub>3</sub><br><b>Exact Mass:</b><br>344.00715<br><b>Molecular Weight:</b><br>344.42200   |
|                         | EP | Impurity B                      |  <p>Chemical Formula: C<sub>16</sub>H<sub>20</sub>N<sub>4</sub>O<sub>4</sub>S<sub>3</sub><br/>Exact Mass: 428.06467<br/>Molecular Weight: 428.54000</p>  | <b>Chemical Formula:</b><br>C <sub>16</sub> H <sub>20</sub> N <sub>4</sub> O <sub>4</sub> S <sub>3</sub><br><b>Exact Mass:</b><br>428.06467<br><b>Molecular Weight:</b><br>428.54000   |

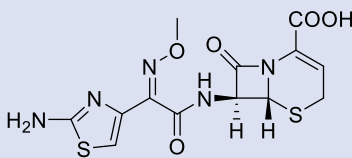
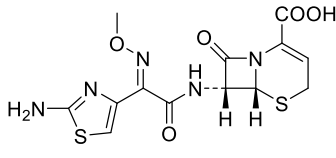
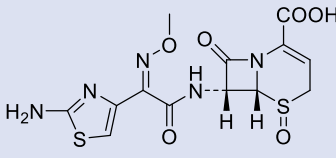
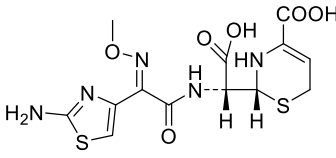
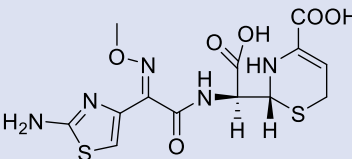
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|--|-----|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | EP  | Impurity C                    |  <p>Chemical Formula: C<sub>11</sub>H<sub>12</sub>N<sub>6</sub>O<sub>4</sub>S<br/>Exact Mass: 324.06407<br/>Molecular Weight: 324.31500</p>               | <p>Chemical Formula:<br/><b>C<sub>11</sub>H<sub>12</sub>N<sub>6</sub>O<sub>4</sub>S</b></p> <p>Exact Mass:<br/><b>324.06407</b></p> <p>Molecular Weight:<br/><b>324.31500</b></p>             |
|  | EP  | Impurity D                    |  <p>Chemical Formula: C<sub>13</sub>H<sub>14</sub>N<sub>6</sub>O<sub>6</sub>S<br/>Exact Mass: 382.06955<br/>Molecular Weight: 382.35100</p>               | <p>Chemical Formula:<br/><b>C<sub>13</sub>H<sub>14</sub>N<sub>6</sub>O<sub>6</sub>S</b></p> <p>Exact Mass:<br/><b>382.06955</b></p> <p>Molecular Weight:<br/><b>382.35100</b></p>             |
|  | EP  | Impurity K                    |  <p>Chemical Formula: C<sub>14</sub>H<sub>15</sub>N<sub>9</sub>O<sub>3</sub>S<sub>3</sub><br/>Exact Mass: 453.04600<br/>Molecular Weight: 453.51400</p>   | <p>Chemical Formula:<br/><b>C<sub>14</sub>H<sub>15</sub>N<sub>9</sub>O<sub>3</sub>S<sub>3</sub></b></p> <p>Exact Mass:<br/><b>453.04600</b></p> <p>Molecular Weight:<br/><b>453.51400</b></p> |
|  | EP  | Impurity L<br>Impurity M(USP) |  <p>Chemical Formula: C<sub>14</sub>H<sub>14</sub>N<sub>8</sub>O<sub>4</sub>S<sub>3</sub><br/>Exact Mass: 454.03001<br/>Molecular Weight: 454.49800</p> | <p>Chemical Formula:<br/><b>C<sub>14</sub>H<sub>14</sub>N<sub>8</sub>O<sub>4</sub>S<sub>3</sub></b></p> <p>Exact Mass:<br/><b>454.03001</b></p> <p>Molecular Weight:<br/><b>454.49800</b></p> |
|  | USP | Impurity L                    |  <p>Chemical Formula: C<sub>14</sub>H<sub>16</sub>N<sub>8</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass: 472.04058<br/>Molecular Weight: 472.51300</p> | <p>Chemical Formula:<br/><b>C<sub>14</sub>H<sub>16</sub>N<sub>8</sub>O<sub>5</sub>S<sub>3</sub></b></p> <p>Exact Mass:<br/><b>472.04058</b></p> <p>Molecular Weight:<br/><b>472.51300</b></p> |

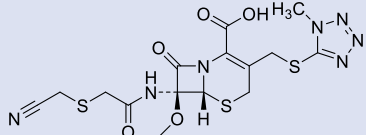
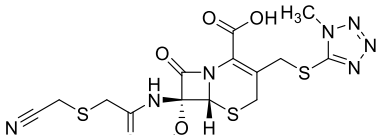
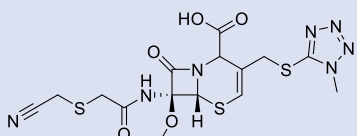
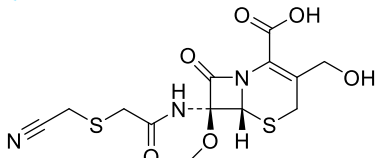
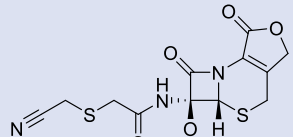
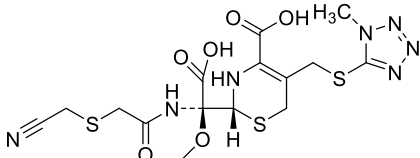
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|---------------------------------|-----|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | USP | Impurity D                   |  <p>Chemical Formula: <math>C_{11}H_{12}N_6O_5S</math><br/>Exact Mass: 340.05899<br/>Molecular Weight: 340.31400</p>      | <p>Chemical Formula:<br/><b><math>C_{11}H_{12}N_6O_5S</math></b><br/>Exact Mass:<br/>340.05899<br/>Molecular Weight:<br/>340.31400</p>     |
|                                 | USP | Impurity B                   |  <p>Chemical Formula: <math>C_5H_9N_5O_3</math><br/>Exact Mass: 187.07054<br/>Molecular Weight: 187.15900</p>             | <p>Chemical Formula:<br/><b><math>C_5H_9N_5O_3</math></b><br/>Exact Mass:<br/>187.07054<br/>Molecular Weight:<br/>187.15900</p>            |
|                                 |     |                              |                                                                                                                                                                                                             |                                                                                                                                            |
| Cefamandole<br>nafate<br>Sodium |     | Cefamandole<br>nafate Sodium |  <p>Chemical Formula: <math>C_{19}H_{17}N_6NaO_6S_2</math><br/>Exact Mass: 512.05487<br/>Molecular Weight: 512.49077</p> | <p>Chemical Formula:<br/><b><math>C_{19}H_{17}N_6NaO_6S_2</math></b><br/>Exact Mass:<br/>512.05487<br/>Molecular Weight:<br/>512.49077</p> |
|                                 | EP  | Impurity C                   |  <p>Chemical Formula: <math>C_{20}H_{20}N_6O_6S_2</math><br/>Exact Mass: 504.08857<br/>Molecular Weight: 504.53600</p>  | <p>Chemical Formula:<br/><b><math>C_{20}H_{20}N_6O_6S_2</math></b><br/>Exact Mass:<br/>504.08857<br/>Molecular Weight:<br/>504.53600</p>   |
|                                 | EP  | Impurity D                   |  <p>Chemical Formula: <math>C_2H_4N_4S</math><br/>Exact Mass: 116.01567<br/>Molecular Weight: 116.14200</p>             | <p>Chemical Formula:<br/><b><math>C_2H_4N_4S</math></b><br/>Exact Mass:<br/>116.01567<br/>Molecular Weight:<br/>116.14200</p>              |

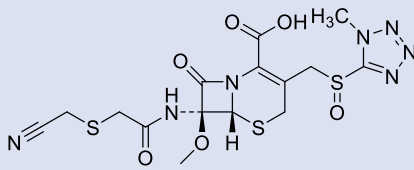
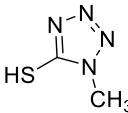
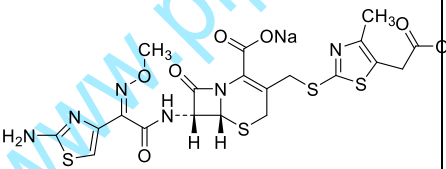
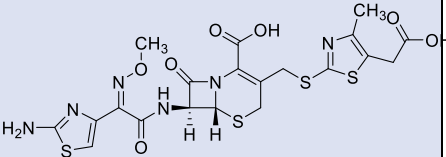
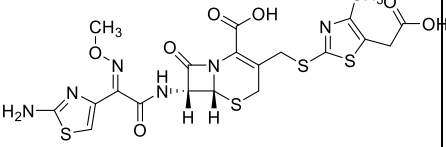
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|----------|----|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cefepime |    | Cefepime   |  <p>Chemical Formula: C<sub>19</sub>H<sub>24</sub>N<sub>6</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 480.12496<br/>Molecular Weight: 480.55800</p>             | <p>Chemical Formula:<br/>C<sub>19</sub>H<sub>24</sub>N<sub>6</sub>O<sub>5</sub>S<sub>2</sub></p> <p>Exact Mass:<br/>480.12496</p> <p>Molecular Weight:<br/>480.55800</p>             |
|          | EP | Impurity A |  <p>Chemical Formula: C<sub>19</sub>H<sub>24</sub>N<sub>6</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 480.12496<br/>Molecular Weight: 480.55800</p>             | <p>Chemical Formula:<br/>C<sub>19</sub>H<sub>24</sub>N<sub>6</sub>O<sub>5</sub>S<sub>2</sub></p> <p>Exact Mass:<br/>480.12496</p> <p>Molecular Weight:<br/>480.55800</p>             |
|          | EP | Impurity B |  <p>Chemical Formula: C<sub>25</sub>H<sub>30</sub>N<sub>9</sub>O<sub>7</sub>S<sub>3</sub><sup>+</sup><br/>Exact Mass: 664.14248<br/>Molecular Weight: 664.75045</p> | <p>Chemical Formula:<br/>C<sub>25</sub>H<sub>30</sub>N<sub>9</sub>O<sub>7</sub>S<sub>3</sub><sup>+</sup></p> <p>Exact Mass:<br/>664.14248</p> <p>Molecular Weight:<br/>664.75045</p> |
|          | EP | Impurity C |  <p>Chemical Formula: C<sub>8</sub>H<sub>10</sub>N<sub>4</sub>O<sub>3</sub>S<br/>Exact Mass: 242.04736<br/>Molecular Weight: 242.25300</p>                        | <p>Chemical Formula:<br/>C<sub>8</sub>H<sub>10</sub>N<sub>4</sub>O<sub>3</sub>S</p> <p>Exact Mass:<br/>242.04736</p> <p>Molecular Weight:<br/>242.25300</p>                          |
|          | EP | Impurity D |  <p>Chemical Formula: C<sub>6</sub>H<sub>7</sub>N<sub>3</sub>O<sub>3</sub>S<br/>Exact Mass: 201.02081<br/>Molecular Weight: 201.20000</p>                         | <p>Chemical Formula:<br/>C<sub>6</sub>H<sub>7</sub>N<sub>3</sub>O<sub>3</sub>S</p> <p>Exact Mass:<br/>201.02081</p> <p>Molecular Weight:<br/>201.20000</p>                           |
|          | EP | Impurity E |  <p>Chemical Formula: C<sub>13</sub>H<sub>19</sub>N<sub>3</sub>O<sub>3</sub>S<br/>Exact Mass: 297.11471<br/>Molecular Weight: 297.37300</p>                       | <p>Chemical Formula:<br/>C<sub>13</sub>H<sub>19</sub>N<sub>3</sub>O<sub>3</sub>S</p> <p>Exact Mass:<br/>297.11471</p> <p>Molecular Weight:<br/>297.37300</p>                         |

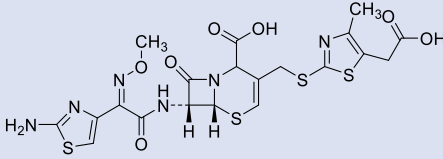
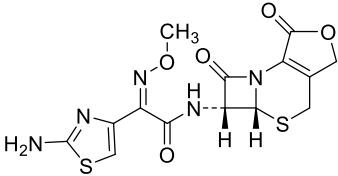
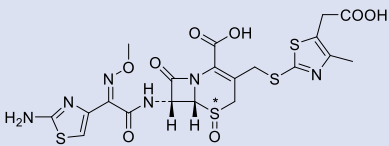
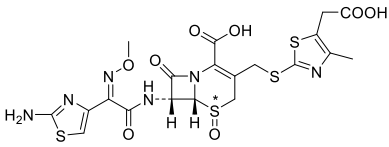
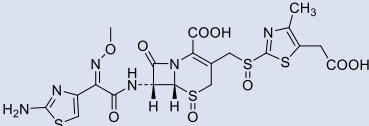
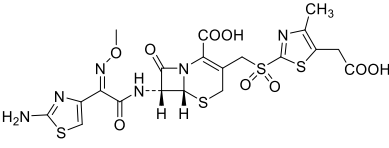
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|-----------------------|----|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|                       |    |                                                         |                                                                                                                                                                                                            | 297.37300                                                                                                               |
|                       | EP | Impurity F                                              |  <p>Chemical Formula: <math>C_{32}H_{42}N_9O_7S_3^+</math><br/>Exact Mass: 760.23638<br/>Molecular Weight: 760.92345</p> | <p>Chemical Formula: <math>C_{32}H_{42}N_9O_7S_3^+</math><br/>Exact Mass: 760.23638<br/>Molecular Weight: 760.92345</p> |
|                       |    | (6R,7S)- Cefepime                                       |  <p>Chemical Formula: <math>C_{19}H_{24}N_6O_5S_2</math><br/>Exact Mass: 480.12496<br/>Molecular Weight: 480.55800</p>   | <p>Chemical Formula: <math>C_{19}H_{24}N_6O_5S_2</math><br/>Exact Mass: 480.12496<br/>Molecular Weight: 480.55800</p>   |
|                       |    | Cefepime Oxide<br>Impurity                              |  <p>Chemical Formula: <math>C_{19}H_{24}N_6O_6S_2</math><br/>Exact Mass: 496.11987<br/>Molecular Weight: 496.55700</p>  | <p>Chemical Formula: <math>C_{19}H_{24}N_6O_6S_2</math><br/>Exact Mass: 496.11987<br/>Molecular Weight: 496.55700</p>   |
|                       |    |                                                         |                                                                                                                                                                                                            |                                                                                                                         |
| Ceftizoxime<br>Sodium |    | Ceftizoxime                                             |  <p>Chemical Formula: <math>C_{13}H_{13}N_5O_5S_2</math><br/>Exact Mass: 383.03581<br/>Molecular Weight: 383.39700</p> | <p>Chemical Formula: <math>C_{13}H_{13}N_5O_5S_2</math><br/>Exact Mass: 383.03581<br/>Molecular Weight: 383.39700</p>   |
|                       |    | Ceftizoxime<br>Open-ring<br>decarboxylation<br>Impurity |  <p>Chemical Formula: <math>C_{12}H_{15}N_5O_4S_2</math><br/>Exact Mass: 357.05655<br/>Molecular Weight: 357.40300</p> | <p>Chemical Formula: <math>C_{12}H_{15}N_5O_4S_2</math><br/>Exact Mass: 357.05655<br/>Molecular Weight: 357.40300</p>   |

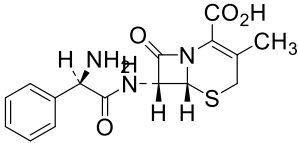
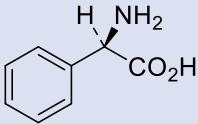
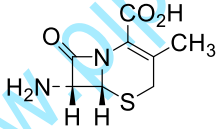
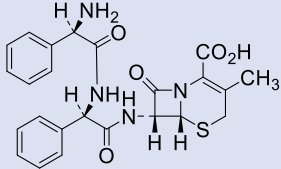
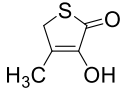
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|  | Ceftizoxime TSM1<br><br>Impurity    |  <p>Chemical Formula: <math>C_{19}H_{18}N_8O_7S_3</math><br/>Exact Mass: 566.04606<br/>Molecular Weight: 566.58200</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>19</sub>H<sub>18</sub>N<sub>8</sub>O<sub>7</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>566.04606</b></p> <p><b>Molecular Weight:</b><br/><b>566.58200</b></p> |
|  | Ceftizoxime TSM2<br><br>Impurity    |  <p>Chemical Formula: <math>C_{20}H_{19}N_7O_7S_3</math><br/>Exact Mass: 565.05<br/>Molecular Weight: 565.59</p>         | <p><b>Chemical Formula:</b><br/><b>C<sub>20</sub>H<sub>19</sub>N<sub>7</sub>O<sub>7</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>565.05</b></p> <p><b>Molecular Weight:</b><br/><b>565.59</b></p>       |
|  | Ceftizoxime open<br>ring Impurity 1 |  <p>Chemical Formula: <math>C_{13}H_{15}N_5O_6S_2</math><br/>Exact Mass: 401.04637<br/>Molecular Weight: 401.41200</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>13</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>401.04637</b></p> <p><b>Molecular Weight:</b><br/><b>401.41200</b></p> |
|  | Ceftizoxime open<br>ring Impurity 2 |  <p>Chemical Formula: <math>C_{13}H_{15}N_5O_6S_2</math><br/>Exact Mass: 401.04637<br/>Molecular Weight: 401.41200</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>13</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>401.04637</b></p> <p><b>Molecular Weight:</b><br/><b>401.41200</b></p> |
|  | $\Delta$ 3-Ceftizoxime              |  <p>Chemical Formula: <math>C_{13}H_{13}N_5O_5S_2</math><br/>Exact Mass: 383.03581<br/>Molecular Weight: 383.39700</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>13</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>383.03581</b></p> <p><b>Molecular Weight:</b><br/><b>383.39700</b></p> |
|  | $\Delta$ 3-(E)-Ceftizoxime          |  <p>Chemical Formula: <math>C_{13}H_{13}N_5O_5S_2</math><br/>Exact Mass: 383.03581<br/>Molecular Weight: 383.39700</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>13</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>383.03581</b></p> <p><b>Molecular Weight:</b><br/><b>383.39700</b></p> |

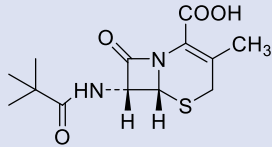
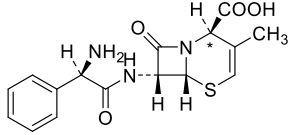
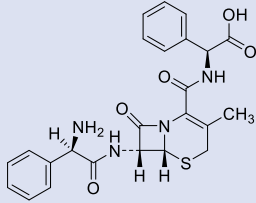
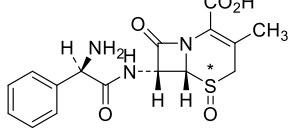
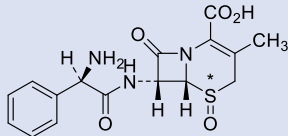
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|  | (6R,7S)-Ceftizoxime                        |  <p>Chemical Formula: C<sub>13</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 383.03581<br/>Molecular Weight: 383.39700</p>   | <p>Chemical Formula: C<sub>13</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 383.03581<br/>Molecular Weight: 383.39700</p> |
|  | 7E-Ceftizoxime                             |  <p>Chemical Formula: C<sub>13</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 383.03581<br/>Molecular Weight: 383.39700</p>   | <p>Chemical Formula: C<sub>13</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 383.03581<br/>Molecular Weight: 383.39700</p> |
|  | Ceftizoxime<br>Oxidation<br>Impurity       |  <p>Chemical Formula: C<sub>13</sub>H<sub>13</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 399.03<br/>Molecular Weight: 399.40</p>         | <p>Chemical Formula: C<sub>13</sub>H<sub>13</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 399.03<br/>Molecular Weight: 399.40</p>       |
|  | Ceftizoxime<br>Open-ring 1 trans<br>isomer |  <p>Chemical Formula: C<sub>13</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 401.04637<br/>Molecular Weight: 401.41200</p> | <p>Chemical Formula: C<sub>13</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 401.04637<br/>Molecular Weight: 401.41200</p> |
|  | Ceftizoxime<br>Open-ring 2 trans<br>isomer |  <p>Chemical Formula: C<sub>13</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 401.04637<br/>Molecular Weight: 401.41200</p> | <p>Chemical Formula: C<sub>13</sub>H<sub>15</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 401.04637<br/>Molecular Weight: 401.41200</p> |

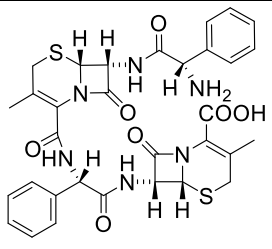
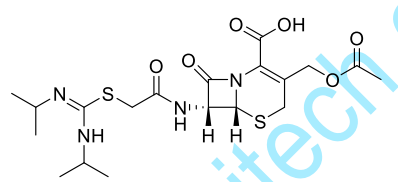
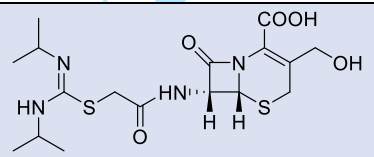
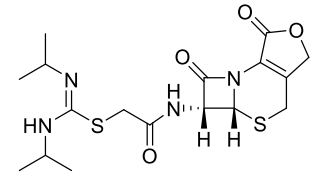
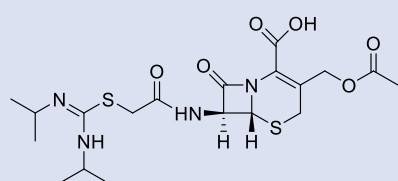
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|-------------|--|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cefmetazole |  | Cefmetazole                    |  <p>Chemical Formula: C<sub>15</sub>H<sub>17</sub>N<sub>7</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass: 471.04533<br/>Molecular Weight: 471.52500</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>15</sub>H<sub>17</sub>N<sub>7</sub>O<sub>5</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>471.04533</b></p> <p><b>Molecular Weight:</b><br/><b>471.52500</b></p> |
|             |  | 6R,7R-Cefmetazole              |  <p>Chemical Formula: C<sub>15</sub>H<sub>17</sub>N<sub>7</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass: 471.04533<br/>Molecular Weight: 471.52500</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>15</sub>H<sub>17</sub>N<sub>7</sub>O<sub>5</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>471.04533</b></p> <p><b>Molecular Weight:</b><br/><b>471.52500</b></p> |
|             |  | Δ <sup>3</sup> -Cefmetazole    |  <p>Chemical Formula: C<sub>15</sub>H<sub>17</sub>N<sub>7</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass: 471.04533<br/>Molecular Weight: 471.52500</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>15</sub>H<sub>17</sub>N<sub>7</sub>O<sub>5</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>471.04533</b></p> <p><b>Molecular Weight:</b><br/><b>471.52500</b></p> |
|             |  | Detetrazole Cefmetazole        |  <p>Chemical Formula: C<sub>13</sub>H<sub>15</sub>N<sub>3</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 373.04023<br/>Molecular Weight: 373.39800</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>13</sub>H<sub>15</sub>N<sub>3</sub>O<sub>6</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>373.04023</b></p> <p><b>Molecular Weight:</b><br/><b>373.39800</b></p> |
|             |  | Cefmetazole Lactone            |  <p>Chemical Formula: C<sub>13</sub>H<sub>13</sub>N<sub>3</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 355.02966<br/>Molecular Weight: 355.38300</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>13</sub>H<sub>13</sub>N<sub>3</sub>O<sub>5</sub>S<sub>2</sub></b></p> <p><b>Exact Mass:</b><br/><b>355.02966</b></p> <p><b>Molecular Weight:</b><br/><b>355.38300</b></p> |
|             |  | Cefmetazole Open Ring Impurity |  <p>Chemical Formula: C<sub>15</sub>H<sub>19</sub>N<sub>7</sub>O<sub>6</sub>S<sub>3</sub><br/>Exact Mass: 489.05589<br/>Molecular Weight: 489.54000</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>15</sub>H<sub>19</sub>N<sub>7</sub>O<sub>6</sub>S<sub>3</sub></b></p> <p><b>Exact Mass:</b><br/><b>489.05589</b></p> <p><b>Molecular Weight:</b><br/><b>489.54000</b></p> |

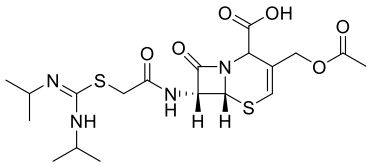
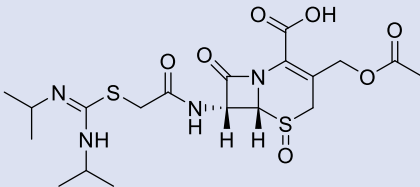
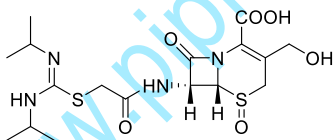
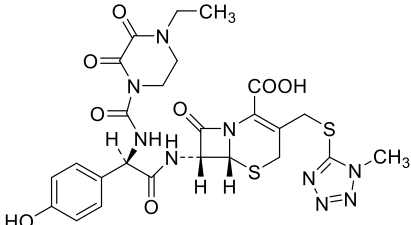
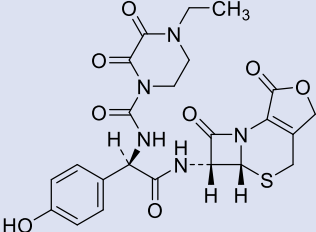
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|----------------------|--|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      |  | Cefmetazole<br>oxidation Impurity |  <p>Chemical Formula: C<sub>15</sub>H<sub>17</sub>N<sub>7</sub>O<sub>6</sub>S<sub>3</sub><br/>Exact Mass: 487.04024<br/>Molecular Weight: 487.52400</p>                | <p>Chemical Formula: C<sub>15</sub>H<sub>17</sub>N<sub>7</sub>O<sub>6</sub>S<sub>3</sub><br/>Exact Mass: 487.04024<br/>Molecular Weight: 487.52400</p>               |
|                      |  | Cefmetazole MMT<br>Impurity       |  <p>Chemical Formula: C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>S<br/>Exact Mass: 116.01567<br/>Molecular Weight: 116.14200</p>                                           | <p>Chemical Formula: C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>S<br/>Exact Mass: 116.01567<br/>Molecular Weight: 116.14200</p>                                          |
|                      |  |                                   |                                                                                                                                                                                                                                                          |                                                                                                                                                                      |
| Cefodizime<br>Sodium |  | Cefodizime<br>Sodium              |  <p>Chemical Formula: C<sub>20</sub>H<sub>18</sub>N<sub>6</sub>Na<sub>2</sub>O<sub>7</sub>S<sub>4</sub><br/>Exact Mass: 627.99152<br/>Molecular Weight: 628.61854</p> | <p>Chemical Formula: C<sub>20</sub>H<sub>18</sub>N<sub>6</sub>Na<sub>2</sub>O<sub>7</sub>S<sub>4</sub><br/>Exact Mass: 627.99152<br/>Molecular Weight: 628.61854</p> |
|                      |  | 6R,7S-Cefodizime                  |  <p>Chemical Formula: C<sub>20</sub>H<sub>20</sub>N<sub>6</sub>O<sub>7</sub>S<sub>4</sub><br/>Exact Mass: 584.02763<br/>Molecular Weight: 584.65500</p>              | <p>Chemical Formula: C<sub>20</sub>H<sub>20</sub>N<sub>6</sub>O<sub>7</sub>S<sub>4</sub><br/>Exact Mass: 584.02763<br/>Molecular Weight: 584.65500</p>               |
|                      |  | 7E- Cefodizime                    |  <p>Chemical Formula: C<sub>20</sub>H<sub>20</sub>N<sub>6</sub>O<sub>7</sub>S<sub>4</sub><br/>Exact Mass: 584.02763<br/>Molecular Weight: 584.65500</p>              | <p>Chemical Formula: C<sub>20</sub>H<sub>20</sub>N<sub>6</sub>O<sub>7</sub>S<sub>4</sub><br/>Exact Mass: 584.02763<br/>Molecular Weight: 584.65500</p>               |

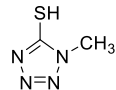
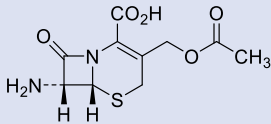
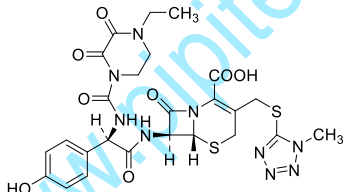
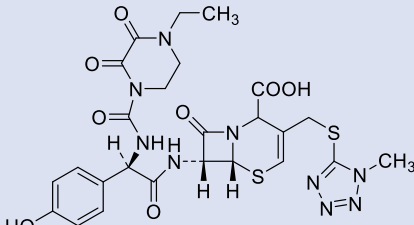
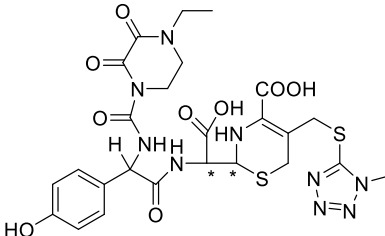
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|  | <b>Δ3- Cefodizime</b>                  |  <p>Chemical Formula: C<sub>20</sub>H<sub>20</sub>N<sub>6</sub>O<sub>7</sub>S<sub>4</sub><br/>Exact Mass: 584.02763<br/>Molecular Weight: 584.65500</p>   | <b>Chemical Formula:</b><br>C <sub>20</sub> H <sub>20</sub> N <sub>6</sub> O <sub>7</sub> S <sub>4</sub><br><b>Exact Mass:</b><br>584.02763<br><b>Molecular Weight:</b><br>584.65500 |
|  | <b>Cefodizime lactone</b>              |  <p>Chemical Formula: C<sub>14</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub><br/>Exact Mass: 395.03581<br/>Molecular Weight: 395.40800</p>   | <b>Chemical Formula:</b><br>C <sub>14</sub> H <sub>13</sub> N <sub>5</sub> O <sub>5</sub> S <sub>2</sub><br><b>Exact Mass:</b><br>395.03581<br><b>Molecular Weight:</b><br>395.40800 |
|  | <b>Cefodizime oxidation Impurity 1</b> |  <p>Chemical Formula: C<sub>20</sub>H<sub>20</sub>N<sub>6</sub>O<sub>8</sub>S<sub>4</sub><br/>Exact Mass: 600.02254<br/>Molecular Weight: 600.65400</p>   | <b>Chemical Formula:</b><br>C <sub>20</sub> H <sub>20</sub> N <sub>6</sub> O <sub>8</sub> S <sub>4</sub><br><b>Exact Mass:</b><br>600.02254<br><b>Molecular Weight:</b><br>600.65400 |
|  | <b>Cefodizime oxidation Impurity 2</b> |  <p>Chemical Formula: C<sub>20</sub>H<sub>20</sub>N<sub>6</sub>O<sub>8</sub>S<sub>4</sub><br/>Exact Mass: 600.02254<br/>Molecular Weight: 600.65400</p> | <b>Chemical Formula:</b><br>C <sub>20</sub> H <sub>20</sub> N <sub>6</sub> O <sub>8</sub> S <sub>4</sub><br><b>Exact Mass:</b><br>600.02254<br><b>Molecular Weight:</b><br>600.65400 |
|  | <b>Cefodizime oxidation Impurity 3</b> |  <p>Chemical Formula: C<sub>20</sub>H<sub>20</sub>N<sub>6</sub>O<sub>9</sub>S<sub>4</sub><br/>Exact Mass: 616.01746<br/>Molecular Weight: 616.65300</p> | <b>Chemical Formula:</b><br>C <sub>20</sub> H <sub>20</sub> N <sub>6</sub> O <sub>9</sub> S <sub>4</sub><br><b>Exact Mass:</b><br>616.01746<br><b>Molecular Weight:</b><br>616.65300 |
|  | <b>Cefodizime oxidation Impurity 4</b> |  <p>Chemical Formula: C<sub>20</sub>H<sub>20</sub>N<sub>6</sub>O<sub>9</sub>S<sub>4</sub><br/>Exact Mass: 616.01746<br/>Molecular Weight: 616.65300</p> | <b>Chemical Formula:</b><br>C <sub>20</sub> H <sub>20</sub> N <sub>6</sub> O <sub>9</sub> S <sub>4</sub><br><b>Exact Mass:</b><br>616.01746<br><b>Molecular Weight:</b><br>616.65300 |

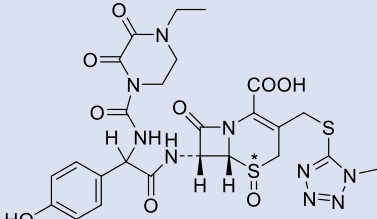
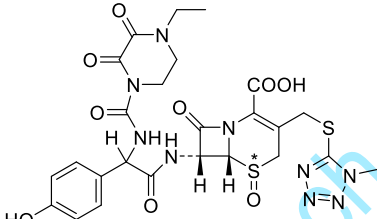
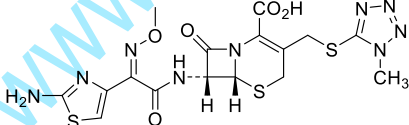
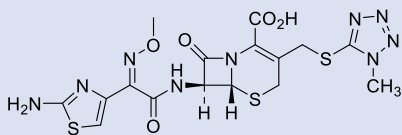
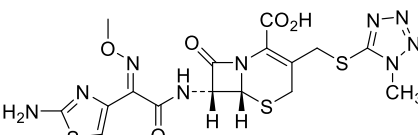
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|------------|----|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cephalexin |    | Cephalexin |  <p>Chemical Formula: <math>C_{16}H_{17}N_3O_4S</math><br/>Exact Mass: 347.09398<br/>Molecular Weight: 347.38900</p>   | <p>Chemical Formula:<br/><b><math>C_{16}H_{17}N_3O_4S</math></b></p> <p>Exact Mass:<br/><b>347.09398</b></p> <p>Molecular Weight:<br/><b>347.38900</b></p> |
|            | EP | Impurity A |  <p>Chemical Formula: <math>C_8H_9NO_2</math><br/>Exact Mass: 151.06333<br/>Molecular Weight: 151.16500</p>            | <p>Chemical Formula:<br/><b><math>C_8H_9NO_2</math></b></p> <p>Exact Mass:<br/><b>151.06333</b></p> <p>Molecular Weight:<br/><b>151.16500</b></p>          |
|            | EP | Impurity B |  <p>Chemical Formula: <math>C_8H_{10}N_2O_3S</math><br/>Exact Mass: 214.04121<br/>Molecular Weight: 214.23900</p>     | <p>Chemical Formula:<br/><b><math>C_8H_{10}N_2O_3S</math></b></p> <p>Exact Mass:<br/><b>214.04121</b></p> <p>Molecular Weight:<br/><b>214.23900</b></p>    |
|            | EP | Impurity C |  <p>Chemical Formula: <math>C_{24}H_{24}N_4O_5S</math><br/>Exact Mass: 480.14674<br/>Molecular Weight: 480.53900</p> | <p>Chemical Formula:<br/><b><math>C_{24}H_{24}N_4O_5S</math></b></p> <p>Exact Mass:<br/><b>480.14674</b></p> <p>Molecular Weight:<br/><b>480.53900</b></p> |
|            | EP | Impurity D |  <p>Chemical Formula: <math>C_5H_6O_2S</math><br/>Exact Mass: 130.00885<br/>Molecular Weight: 130.16100</p>          | <p>Chemical Formula:<br/><b><math>C_5H_6O_2S</math></b></p> <p>Exact Mass:<br/><b>130.00885</b></p> <p>Molecular Weight:<br/><b>130.16100</b></p>          |

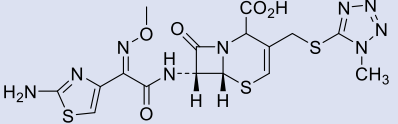
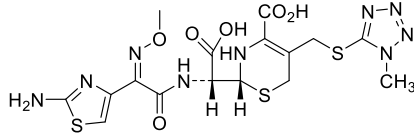
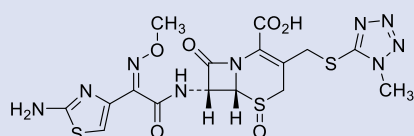
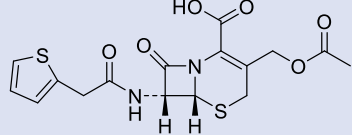
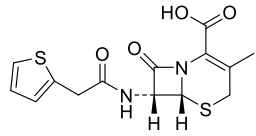
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|--|----|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|  | EP | Impurity E                            |  <p>Chemical Formula: C<sub>13</sub>H<sub>18</sub>N<sub>2</sub>O<sub>4</sub>S<br/>Exact Mass: 298.09873<br/>Molecular Weight: 298.35700</p>   | <p>Chemical Formula: C<sub>13</sub>H<sub>18</sub>N<sub>2</sub>O<sub>4</sub>S<br/>Exact Mass: 298.09873<br/>Molecular Weight: 298.35700</p> |
|  | EP | Impurity F                            |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>3</sub>O<sub>4</sub>S<br/>Exact Mass: 347.09398<br/>Molecular Weight: 347.38900</p>   | <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>3</sub>O<sub>4</sub>S<br/>Exact Mass: 347.09398<br/>Molecular Weight: 347.38900</p> |
|  |    | Cephalexin<br>Impurity C2             |  <p>Chemical Formula: C<sub>24</sub>H<sub>24</sub>N<sub>4</sub>O<sub>5</sub>S<br/>Exact Mass: 480.14674<br/>Molecular Weight: 480.53900</p>  | <p>Chemical Formula: C<sub>24</sub>H<sub>24</sub>N<sub>4</sub>O<sub>5</sub>S<br/>Exact Mass: 480.14674<br/>Molecular Weight: 480.53900</p> |
|  |    | Cephalexin<br>oxidation Impurity<br>1 |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>3</sub>O<sub>5</sub>S<br/>Exact Mass: 363.08889<br/>Molecular Weight: 363.38800</p> | <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>3</sub>O<sub>5</sub>S<br/>Exact Mass: 363.08889<br/>Molecular Weight: 363.38800</p> |
|  |    | Cephalexin<br>oxidation Impurity<br>2 |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>3</sub>O<sub>5</sub>S<br/>Exact Mass: 363.08889<br/>Molecular Weight: 363.38800</p> | <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>3</sub>O<sub>5</sub>S<br/>Exact Mass: 363.08889<br/>Molecular Weight: 363.38800</p> |

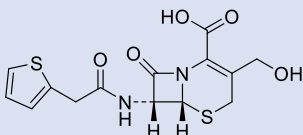
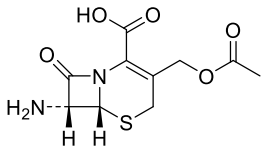
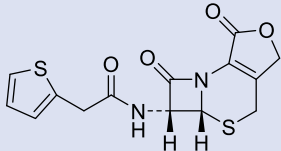
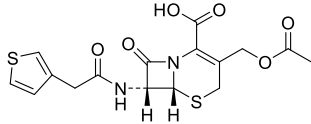
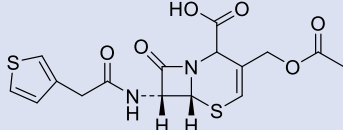
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|                |  | Cephalexin Dimer     |  <p>Chemical Formula: <math>C_{32}H_{32}N_6O_7S_2</math><br/>Exact Mass: 676.17739<br/>Molecular Weight: 676.76300</p>   | <p>Chemical Formula:<br/><math>C_{32}H_{32}N_6O_7S_2</math><br/>Exact Mass:<br/>676.17739<br/>Molecular Weight:<br/>676.76300</p> |
|                |  |                      |                                                                                                                                                                                                            |                                                                                                                                   |
| Cefathiamidine |  | Cefathiamidine       |  <p>Chemical Formula: <math>C_{19}H_{28}N_4O_6S_2</math><br/>Exact Mass: 472.14503<br/>Molecular Weight: 472.57500</p>   | <p>Chemical Formula:<br/><math>C_{19}H_{28}N_4O_6S_2</math><br/>Exact Mass:<br/>472.14503<br/>Molecular Weight:<br/>472.57500</p> |
|                |  | Impurity A           |  <p>Chemical Formula: <math>C_{17}H_{26}N_4O_5S_2</math><br/>Exact Mass: 430.13446<br/>Molecular Weight: 430.53800</p>  | <p>Chemical Formula:<br/><math>C_{17}H_{26}N_4O_5S_2</math><br/>Exact Mass:<br/>430.13446<br/>Molecular Weight:<br/>430.53800</p> |
|                |  | Impurity D           |  <p>Chemical Formula: <math>C_{17}H_{24}N_4O_4S_2</math><br/>Exact Mass: 412.12390<br/>Molecular Weight: 412.52300</p> | <p>Chemical Formula:<br/><math>C_{17}H_{24}N_4O_4S_2</math><br/>Exact Mass:<br/>412.12390<br/>Molecular Weight:<br/>412.52300</p> |
|                |  | 6R,7S-Cefathiamidine |  <p>Chemical Formula: <math>C_{19}H_{28}N_4O_6S_2</math><br/>Exact Mass: 472.14503<br/>Molecular Weight: 472.57500</p> | <p>Chemical Formula:<br/><math>C_{19}H_{28}N_4O_6S_2</math><br/>Exact Mass:<br/>472.14503<br/>Molecular Weight:<br/>472.57500</p> |

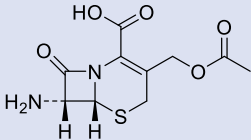
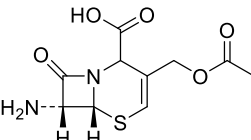
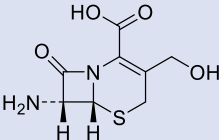
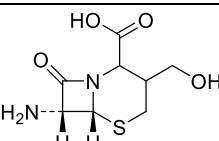
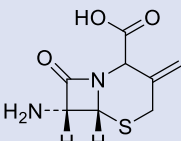
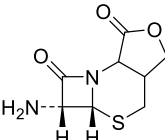
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|--------------|----|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |    | $\Delta 3$ -<br>Cefathiamidine          |  <p>Chemical Formula: C<sub>19</sub>H<sub>28</sub>N<sub>4</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 472.14503<br/>Molecular Weight: 472.57500</p>   | <p>Chemical Formula:<br/>C<sub>19</sub>H<sub>28</sub>N<sub>4</sub>O<sub>6</sub>S<sub>2</sub></p> <p>Exact Mass:<br/>472.14503</p> <p>Molecular Weight:<br/>472.57500</p> |
|              |    | Cefathiamidine<br>Oxide Impurity        |  <p>Chemical Formula: C<sub>19</sub>H<sub>28</sub>N<sub>4</sub>O<sub>7</sub>S<sub>2</sub><br/>Exact Mass: 488.13994<br/>Molecular Weight: 488.57400</p>   | <p>Chemical Formula:<br/>C<sub>19</sub>H<sub>28</sub>N<sub>4</sub>O<sub>7</sub>S<sub>2</sub></p> <p>Exact Mass:<br/>488.13994</p> <p>Molecular Weight:<br/>488.57400</p> |
|              |    | Deacetyl<br>CefathiaMidine<br>oxidation |  <p>Chemical Formula: C<sub>17</sub>H<sub>26</sub>N<sub>4</sub>O<sub>6</sub>S<sub>2</sub><br/>Exact Mass: 446.12938<br/>Molecular Weight: 446.53700</p>   | <p>Chemical Formula:<br/>C<sub>17</sub>H<sub>26</sub>N<sub>4</sub>O<sub>6</sub>S<sub>2</sub></p> <p>Exact Mass:<br/>446.12938</p> <p>Molecular Weight:<br/>446.53700</p> |
|              |    |                                         |                                                                                                                                                                                                                                             |                                                                                                                                                                          |
| Cefoperazone |    | Cefoperazone                            |  <p>Chemical Formula: C<sub>25</sub>H<sub>27</sub>N<sub>9</sub>O<sub>8</sub>S<sub>2</sub><br/>Exact Mass: 645.14240<br/>Molecular Weight: 645.66600</p> | <p>Chemical Formula:<br/>C<sub>25</sub>H<sub>27</sub>N<sub>9</sub>O<sub>8</sub>S<sub>2</sub></p> <p>Exact Mass:<br/>645.14240</p> <p>Molecular Weight:<br/>645.66600</p> |
|              | EP | Impurity A                              |  <p>Chemical Formula: C<sub>23</sub>H<sub>23</sub>N<sub>5</sub>O<sub>8</sub>S<br/>Exact Mass: 529.12673<br/>Molecular Weight: 529.52400</p>             | <p>Chemical Formula:<br/>C<sub>23</sub>H<sub>23</sub>N<sub>5</sub>O<sub>8</sub>S</p> <p>Exact Mass:<br/>529.12673</p> <p>Molecular Weight:<br/>529.52400</p>             |

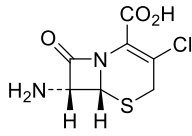
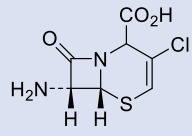
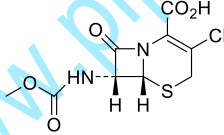
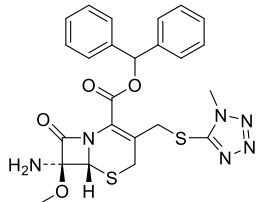
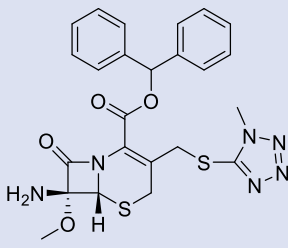
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|--|----|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | EP | Impurity C                              |  <p>Chemical Formula: C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>S<br/>Exact Mass: 116.02<br/>Molecular Weight: 116.14</p>                                    | <p>Chemical Formula: C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>S</p> <p>Exact Mass: 116.02</p> <p>Molecular Weight: 116.14</p>                                  |
|  | EP | Impurity E                              |  <p>Chemical Formula: C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>O<sub>5</sub>S<br/>Exact Mass: 272.04669<br/>Molecular Weight: 272.27500</p>               | <p>Chemical Formula: C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>O<sub>5</sub>S</p> <p>Exact Mass: 272.04669</p> <p>Molecular Weight: 272.27500</p>             |
|  | EP | Impurity F                              |  <p>Chemical Formula: C<sub>25</sub>H<sub>27</sub>N<sub>9</sub>O<sub>8</sub>S<sub>2</sub><br/>Exact Mass: 645.14240<br/>Molecular Weight: 645.66600</p>  | <p>Chemical Formula: C<sub>25</sub>H<sub>27</sub>N<sub>9</sub>O<sub>8</sub>S<sub>2</sub></p> <p>Exact Mass: 645.14240</p> <p>Molecular Weight: 645.66600</p> |
|  | EP | Impurity G                              |  <p>Chemical Formula: C<sub>25</sub>H<sub>27</sub>N<sub>9</sub>O<sub>8</sub>S<sub>2</sub><br/>Exact Mass: 645.14240<br/>Molecular Weight: 645.66600</p> | <p>Chemical Formula: C<sub>25</sub>H<sub>27</sub>N<sub>9</sub>O<sub>8</sub>S<sub>2</sub></p> <p>Exact Mass: 645.14240</p> <p>Molecular Weight: 645.66600</p> |
|  |    | Cefoperazone<br>open ring<br>Impurities |  <p>Chemical Formula: C<sub>25</sub>H<sub>29</sub>N<sub>9</sub>O<sub>9</sub>S<sub>2</sub><br/>Exact Mass: 663.15296<br/>Molecular Weight: 663.68100</p> | <p>Chemical Formula: C<sub>25</sub>H<sub>29</sub>N<sub>9</sub>O<sub>9</sub>S<sub>2</sub></p> <p>Exact Mass: 663.15296</p> <p>Molecular Weight: 663.68100</p> |

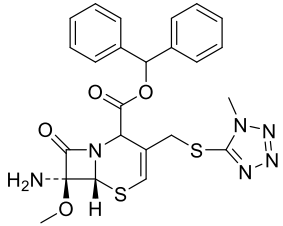
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|-------------|--|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |  | Cefoperazone<br>oxidation Impurity<br>1 |  <p>Chemical Formula: C<sub>25</sub>H<sub>27</sub>N<sub>9</sub>O<sub>9</sub>S<sub>2</sub><br/>Exact Mass: 661.13731<br/>Molecular Weight: 661.66500</p>   | <p>Chemical Formula:<br/>C<sub>25</sub>H<sub>27</sub>N<sub>9</sub>O<sub>9</sub>S<sub>2</sub><br/>Exact Mass:<br/>661.13731<br/>Molecular Weight:<br/>661.66500</p> |
|             |  | Cefoperazone<br>oxidation Impurity<br>2 |  <p>Chemical Formula: C<sub>25</sub>H<sub>27</sub>N<sub>9</sub>O<sub>9</sub>S<sub>2</sub><br/>Exact Mass: 661.13731<br/>Molecular Weight: 661.66500</p>   | <p>Chemical Formula:<br/>C<sub>25</sub>H<sub>27</sub>N<sub>9</sub>O<sub>9</sub>S<sub>2</sub><br/>Exact Mass:<br/>661.13731<br/>Molecular Weight:<br/>661.66500</p> |
|             |  |                                         |                                                                                                                                                                                                                                             |                                                                                                                                                                    |
| Cefmenoxime |  | Cefmenoxime                             |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass: 511.05148<br/>Molecular Weight: 511.55000</p>  | <p>Chemical Formula:<br/>C<sub>16</sub>H<sub>17</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass:<br/>511.05148<br/>Molecular Weight:<br/>511.55000</p> |
|             |  | 6R,7S-Cefmenoxime                       |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass: 511.05148<br/>Molecular Weight: 511.55000</p> | <p>Chemical Formula:<br/>C<sub>16</sub>H<sub>17</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass:<br/>511.05148<br/>Molecular Weight:<br/>511.55000</p> |
|             |  | 7E-Cefmenoxime                          |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass: 511.05148<br/>Molecular Weight: 511.55000</p> | <p>Chemical Formula:<br/>C<sub>16</sub>H<sub>17</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass:<br/>511.05148<br/>Molecular Weight:<br/>511.55000</p> |

|                    |           |                                                             |                                                                                                                                                                                                                                              |                                                                                                                                                                                                   |
|--------------------|-----------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    |           | <b>Δ3-Cefmenoxime</b>                                       |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub><br/>Exact Mass: 511.05148<br/>Molecular Weight: 511.55000</p>    | <b>Chemical Formula:</b><br><b>C<sub>16</sub>H<sub>17</sub>N<sub>9</sub>O<sub>5</sub>S<sub>3</sub></b><br><b>Exact Mass:</b><br><b>511.05148</b><br><b>Molecular Weight:</b><br><b>511.55000</b>  |
|                    |           | <b>Cefmenoxime</b><br><b>open ring Impurity</b>             |  <p>Chemical Formula: C<sub>16</sub>H<sub>19</sub>N<sub>9</sub>O<sub>6</sub>S<sub>3</sub><br/>Exact Mass: 529.06204<br/>Molecular Weight: 529.56500</p>    | <b>Chemical Formula:</b><br><b>C<sub>16</sub>H<sub>19</sub>N<sub>9</sub>O<sub>6</sub>S<sub>3</sub></b><br><b>Exact Mass:</b><br><b>529.06204</b><br><b>Molecular Weight:</b><br><b>529.56500</b>  |
|                    |           | <b>Cefmenoxime</b><br><b>Oxidation impurity</b><br><b>1</b> |  <p>Chemical Formula: C<sub>16</sub>H<sub>17</sub>N<sub>9</sub>O<sub>6</sub>S<sub>3</sub><br/>Exact Mass: 527.04639<br/>Molecular Weight: 527.54900</p>    | <b>Chemical Formula:</b><br><b>C<sub>16</sub>H<sub>17</sub>N<sub>9</sub>O<sub>6</sub>S<sub>3</sub></b><br><b>Exact Mass:</b><br><b>527.04639</b><br><b>Molecular Weight:</b><br><b>527.54900</b>  |
|                    |           |                                                             |                                                                                                                                                                                                                                              |                                                                                                                                                                                                   |
| <b>Cephalothin</b> |           | <b>Cephalothin</b>                                          |  <p>Chemical Formula: C<sub>32</sub>H<sub>32</sub>N<sub>4</sub>O<sub>12</sub>S<sub>4</sub><br/>Exact Mass: 792.08996<br/>Molecular Weight: 792.86400</p> | <b>Chemical Formula:</b><br><b>C<sub>32</sub>H<sub>32</sub>N<sub>4</sub>O<sub>12</sub>S<sub>4</sub></b><br><b>Exact Mass:</b><br><b>792.08996</b><br><b>Molecular Weight:</b><br><b>792.86400</b> |
|                    | <b>EP</b> | <b>Impurity A</b>                                           |  <p>Chemical Formula: C<sub>14</sub>H<sub>14</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub><br/>Exact Mass: 338.03950<br/>Molecular Weight: 338.39600</p>  | <b>Chemical Formula:</b><br><b>C<sub>14</sub>H<sub>14</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub></b><br><b>Exact Mass:</b><br><b>338.03950</b><br><b>Molecular Weight:</b><br><b>338.39600</b>  |

|  |    |                                  |                                                                                                                                                                                                            |                                                                                                                       |
|--|----|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|  | EP | Impurity B                       |  <p>Chemical Formula: <math>C_{14}H_{14}N_2O_5S_2</math><br/>Exact Mass: 354.03441<br/>Molecular Weight: 354.39500</p>   | <p>Chemical Formula: <math>C_{14}H_{14}N_2O_5S_2</math><br/>Exact Mass: 354.03441<br/>Molecular Weight: 354.39500</p> |
|  | EP | Impurity C                       |  <p>Chemical Formula: <math>C_{10}H_{12}N_2O_5S</math><br/>Exact Mass: 272.04669<br/>Molecular Weight: 272.27500</p>     | <p>Chemical Formula: <math>C_{10}H_{12}N_2O_5S</math><br/>Exact Mass: 272.04669<br/>Molecular Weight: 272.27500</p>   |
|  | EP | Impurity D                       |  <p>Chemical Formula: <math>C_{14}H_{12}N_2O_4S_2</math><br/>Exact Mass: 336.02385<br/>Molecular Weight: 336.38000</p>   | <p>Chemical Formula: <math>C_{14}H_{12}N_2O_4S_2</math><br/>Exact Mass: 336.02385<br/>Molecular Weight: 336.38000</p> |
|  |    | Cephalothin-3-isomer             |  <p>Chemical Formula: <math>C_{16}H_{16}N_2O_6S_2</math><br/>Exact Mass: 396.04498<br/>Molecular Weight: 396.43200</p> | <p>Chemical Formula: <math>C_{16}H_{16}N_2O_6S_2</math><br/>Exact Mass: 396.04498<br/>Molecular Weight: 396.43200</p> |
|  |    | $\Delta^3$ -Cephalothin-3-isomer |  <p>Chemical Formula: <math>C_{16}H_{16}N_2O_6S_2</math><br/>Exact Mass: 396.04498<br/>Molecular Weight: 396.43200</p> | <p>Chemical Formula: <math>C_{16}H_{16}N_2O_6S_2</math><br/>Exact Mass: 396.04498<br/>Molecular Weight: 396.43200</p> |

|       |  |                                      |                                                                                                                                                                                                                                |                                                                                                                                                                                                        |
|-------|--|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7-ACA |  |                                      |  <p>Chemical Formula: C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>O<sub>5</sub>S<br/>Exact Mass: 272.04669<br/>Molecular Weight: 272.27500</p>  | <p><b>Chemical Formula:</b><br/><b>C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>O<sub>5</sub>S</b></p> <p><b>Exact Mass:</b><br/><b>272.04669</b></p> <p><b>Molecular Weight:</b><br/><b>272.27500</b></p> |
|       |  | Δ <sup>3</sup> -7-ACA                |  <p>Chemical Formula: C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>O<sub>5</sub>S<br/>Exact Mass: 272.04669<br/>Molecular Weight: 272.27500</p>  | <p><b>Chemical Formula:</b><br/><b>C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>O<sub>5</sub>S</b></p> <p><b>Exact Mass:</b><br/><b>272.04669</b></p> <p><b>Molecular Weight:</b><br/><b>272.27500</b></p> |
|       |  | Deacetyl 7-ACA<br>(7-ACA Impurity 1) |  <p>Chemical Formula: C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub>S<br/>Exact Mass: 230.03613<br/>Molecular Weight: 230.23800</p>   | <p><b>Chemical Formula:</b><br/><b>C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub>S</b></p> <p><b>Exact Mass:</b><br/><b>230.03613</b></p> <p><b>Molecular Weight:</b><br/><b>230.23800</b></p>  |
|       |  | 7-ACA Impurity 2                     |  <p>Chemical Formula: C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>S<br/>Exact Mass: 232.05178<br/>Molecular Weight: 232.25400</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>S</b></p> <p><b>Exact Mass:</b><br/><b>232.05178</b></p> <p><b>Molecular Weight:</b><br/><b>232.25400</b></p>  |
|       |  | 7-ACA Impurity 3                     |  <p>Chemical Formula: C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>S<br/>Exact Mass: 214.04121<br/>Molecular Weight: 214.23900</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>S</b></p> <p><b>Exact Mass:</b><br/><b>214.04121</b></p> <p><b>Molecular Weight:</b><br/><b>214.23900</b></p>  |
|       |  | 7-ACA Impurity 4                     |  <p>Chemical Formula: C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>S<br/>Exact Mass: 214.04121<br/>Molecular Weight: 214.23900</p> | <p><b>Chemical Formula:</b><br/><b>C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>S</b></p> <p><b>Exact Mass:</b><br/><b>214.04121</b></p> <p><b>Molecular Weight:</b><br/><b>214.23900</b></p>  |

|        |  |                        |                                                                                                                                                                                                                                             |                                                                                                                                                                          |
|--------|--|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |  |                        |                                                                                                                                                                                                                                             |                                                                                                                                                                          |
| 7-ACCA |  |                        |  <p>Chemical Formula: C<sub>7</sub>H<sub>7</sub>ClN<sub>2</sub>O<sub>3</sub>S<br/>Exact Mass: 233.98659<br/>Molecular Weight: 234.65400</p>               | <p>Chemical Formula:<br/>C<sub>7</sub>H<sub>7</sub>ClN<sub>2</sub>O<sub>3</sub>S</p> <p>Exact Mass:<br/>233.98659</p> <p>Molecular Weight:<br/>234.65400</p>             |
|        |  | Δ <sup>3</sup> -7-ACCA |  <p>Chemical Formula: C<sub>7</sub>H<sub>7</sub>ClN<sub>2</sub>O<sub>3</sub>S<br/>Exact Mass: 233.98659<br/>Molecular Weight: 234.65400</p>               | <p>Chemical Formula:<br/>C<sub>7</sub>H<sub>7</sub>ClN<sub>2</sub>O<sub>3</sub>S</p> <p>Exact Mass:<br/>233.98659</p> <p>Molecular Weight:<br/>234.65400</p>             |
|        |  | 7-ACCA<br>Carbamate    |  <p>Chemical Formula: C<sub>9</sub>H<sub>9</sub>ClN<sub>2</sub>O<sub>5</sub>S<br/>Exact Mass: 291.99207<br/>Molecular Weight: 292.69000</p>              | <p>Chemical Formula:<br/>C<sub>9</sub>H<sub>9</sub>ClN<sub>2</sub>O<sub>5</sub>S</p> <p>Exact Mass:<br/>291.99207</p> <p>Molecular Weight:<br/>292.69000</p>             |
|        |  |                        |                                                                                                                                                                                                                                             |                                                                                                                                                                          |
| 7-MAC  |  |                        |  <p>Chemical Formula: C<sub>24</sub>H<sub>24</sub>N<sub>6</sub>O<sub>4</sub>S<sub>2</sub><br/>Exact Mass: 524.13004<br/>Molecular Weight: 524.61400</p> | <p>Chemical Formula:<br/>C<sub>24</sub>H<sub>24</sub>N<sub>6</sub>O<sub>4</sub>S<sub>2</sub></p> <p>Exact Mass:<br/>524.13004</p> <p>Molecular Weight:<br/>524.61400</p> |
|        |  | 6R-,7R-7-MAC           |  <p>Chemical Formula: C<sub>24</sub>H<sub>24</sub>N<sub>6</sub>O<sub>4</sub>S<sub>2</sub><br/>Exact Mass: 524.13004<br/>Molecular Weight: 524.61400</p> | <p>Chemical Formula:<br/>C<sub>24</sub>H<sub>24</sub>N<sub>6</sub>O<sub>4</sub>S<sub>2</sub></p> <p>Exact Mass:<br/>524.13004</p> <p>Molecular Weight:<br/>524.61400</p> |

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|--|--|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | $\Delta^3$ -7-MAC |  <p>Chemical Formula: C<sub>24</sub>H<sub>24</sub>N<sub>6</sub>O<sub>4</sub>S<sub>2</sub><br/>Exact Mass: 524.13004<br/>Molecular Weight: 524.61400</p> | <p><b>Chemical</b><br/><b>Formula:</b><br/><b>C<sub>24</sub>H<sub>24</sub>N<sub>6</sub>O<sub>4</sub>S<sub>2</sub></b><br/><b>Exact Mass:</b><br/><b>524.13004</b><br/><b>Molecular Weight:</b><br/><b>524.61400</b></p> |
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