

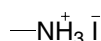


## Perovskite Precursors

**15% off stock items before the end of June 2023****LT-S9126 | MAI *In Stock***

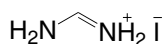
## Methylammonium iodide

CAS No. : 14965-49-2  
Grade : >99.5% , recrystallized 4 times  
Formula : CH<sub>6</sub>I<sup>+</sup>N<sup>-</sup>  
M.W. : 158.97 g/mole

**LT-S9136 | FAI *In Stock***

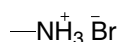
## Formamidinium iodide

CAS No. : 879643-71-7  
Grade : >99.5% , recrystallized 4 times  
Formula : CH<sub>3</sub>I<sup>+</sup>N<sub>2</sub><sup>-</sup>  
M.W. : 171.97 g/mole

**LT-S9137 | MABr *In Stock***

## Methylammonium bromide

CAS No. : 6876-37-5  
Grade : >99.5% , recrystallized 4 times  
Formula : CH<sub>5</sub>Br<sup>+</sup>N<sup>-</sup>  
M.W. : 111.97 g/mole

**LT-S9147 | PbI<sub>2</sub> *In Stock***

## Lead(II) iodide

CAS No. : 10101-63-0  
Grade : 99.999% (trace metals basis)  
Formula : PbI<sub>2</sub>  
M.W. : 461.01 g/mole

**LT-S9148 | PbCl<sub>2</sub> *In Stock***

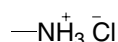
## Lead(II) chloride

CAS No. : 7758-95-4  
Grade : 99.999% (trace metals basis)  
Formula : PbCl<sub>2</sub>  
M.W. : 278.11 g/mole

**LT-S9151 | MACl *In Stock***

## Methylammonium chloride

CAS No. : 593-51-1  
Grade : >99.5% , recrystallized 4 times  
Formula : CH<sub>5</sub>Cl<sup>+</sup>N<sup>-</sup>  
M.W. : 67.52 g/mole

**LT-S9152 | PbBr<sub>2</sub> *In Stock***

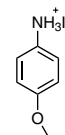
## Lead(II) bromide

CAS No. : 10031-22-8  
Grade : 99.999% trace metals basis  
Formula : PbBr<sub>2</sub>  
M.W. : 367.01 g/mole

**LT-S9206**

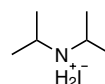
## 4-Methoxyphenylammonium iodide

Grade : >99.5% , recrystallized 4 times  
Formula : C<sub>7</sub>H<sub>10</sub>INO<sup>+</sup>  
M.W. : 251.06 g/mole

**LT-S9207 *In Stock***

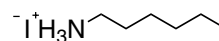
## Diisopropylammonium iodide

Grade : >99.5% , recrystallized 4 times  
Formula : C<sub>6</sub>H<sub>16</sub>I<sup>+</sup>N<sup>-</sup>  
M.W. : 229.1 g/mole

**LT-S9208**

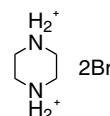
## Hexylammonium iodide

Grade : >99.5% , recrystallized 4 times  
Formula : C<sub>6</sub>H<sub>16</sub>I<sup>+</sup>N<sup>-</sup>  
M.W. : 229.1 g/mole

**LT-S9217**

## Piperazine-1,4-dium bromide

CAS No. : 59813-05-7  
Grade : >99.5% , recrystallized 4 times  
Formula : C<sub>4</sub>H<sub>12</sub>Br<sub>2</sub>N<sub>2</sub><sup>+</sup>  
M.W. : 247.96 g/mole

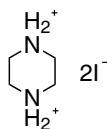


# Perovskite Precursors

## LT-S9218

### Piperazine-1,4-dium iodide

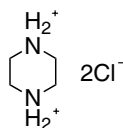
CAS No. : 58464-47-4  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_4H_{12}I_2N_2$   
M.W. : 341.96 g/mole



## LT-S9219

### Piperazine-1,4-dium chloride

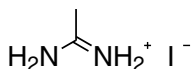
CAS No. : 142-64-3  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_4H_{12}Cl_2N_2$   
M.W. : 159.06 g/mole



## LT-S9220

### Acetamidinium iodide

CAS No. : 1452099-14-7  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_2H_7IN_2$   
M.W. : 185.99 g/mole

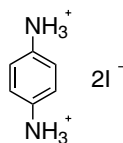


## LT-S9224

**In Stock**

### 1,4-Benzene diammonium iodide

CAS No. : 116469-02-4  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_6H_{10}I_2N_2$   
M.W. : 363.97 g/mole

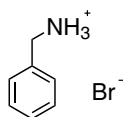


## LT-S9225

**In Stock**

### Benzylammonium bromide

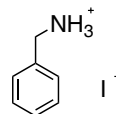
CAS No. : 37488-40-7  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_7H_{10}BrN$   
M.W. : 188.06 g/mole



## LT-S9226

### Benzylammonium iodide

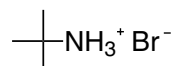
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_7H_{10}IN$   
M.W. : 235.07 g/mole



## LT-S9227

### t-Butylammonium bromide

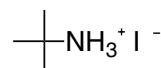
CAS No. : 60469-70-7  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_4H_{12}BrN$   
M.W. : 154.05 g/mole



## LT-S9228

### t-Butylammonium iodide

CAS No. : 39557-45-4  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_4H_{12}IN$   
M.W. : 201.05 g/mole

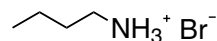


## LT-S9229

**In Stock**

### n-Butylammonium bromide

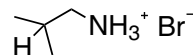
CAS No. : 15567-09-6  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_4H_{12}BrN$   
M.W. : 154.05 g/mole



## LT-S9230

### iso-Butylammonium bromide

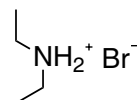
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_4H_{12}BrN$   
M.W. : 154.05 g/mole



## LT-S9231

### Diethylammonium bromide

CAS No. : 6274-12-0  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_4H_{12}BrN$   
M.W. : 154.05 g/mole

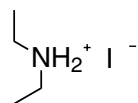


# Perovskite Precursors

LT-S9232

Diethylammonium iodide

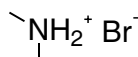
CAS No. : 19833-78-4  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_4H_{12}IN$   
 M.W. : 201.05 g/mole



LT-S9233

Dimethylammonium bromide

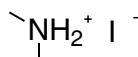
CAS No. : 6912-12-5  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_2H_8BrN$   
 M.W. : 126 g/mole



LT-S9234

Dimethylammonium iodide

CAS No. : 51066-74-1  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_2H_8IN$   
 M.W. : 173 g/mole

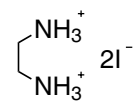


LT-S9235

**In Stock**

1,2-Diammoniummethane iodide

CAS No. : 5700-49-2  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_2H_{10}I_2N_2$   
 M.W. : 315.92 g/mole

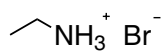


LT-S9236

**In Stock**

Ethylammonium bromide

CAS No. : 593-55-5  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_2H_8BrN$   
 M.W. : 125.99 g/mole

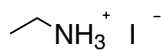


LT-S9237

**In Stock**

Ethylammonium iodide

CAS No. : 506-58-1  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_2H_8IN$   
 M.W. : 173 g/mole

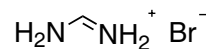


LT-S9238 FABr

**In Stock**

Formamidium bromide

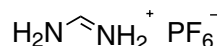
CAS No. : 146958-06-7  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $CH_2BrN_2$   
 M.W. : 124.97 g/mole



LT-S9239

Formamidium hexafluorophosphate

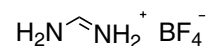
Grade : >99.5% , recrystallized 4 times  
 Formula :  $CH_2F_6N_2P$   
 M.W. : 190.03 g/mole



LT-S9240

Formamidium tetrafluoroborate

Grade : >99.5% , recrystallized 4 times  
 Formula :  $CH_2BF_4N_2$   
 M.W. : 131.87 g/mole

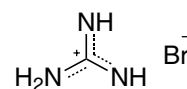


LT-S9241

**In Stock**

Guanidinium bromide

CAS No. : 19244-98-5  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $CH_5BrN_3$   
 M.W. : 139.98 g/mole

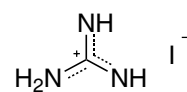


LT-S9242

**In Stock**

Guanidinium iodide

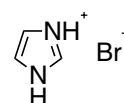
CAS No. : 19227-70-4  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $CH_5IN_3$   
 M.W. : 186.98 g/mole



LT-S9243

Imidazolium bromide

CAS No. : 101023-55-6  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_3H_5BrN_2$   
 M.W. : 148.99 g/mole



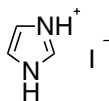
# Perovskite Precursors

LT-S9244

**In Stock**

Imidazolium iodide

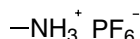
CAS No. : 68007-08-9  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_3H_5IN_2$   
 M.W. : 195.99 g/mole



LT-S9245

Methylammonium hexafluorophosphate

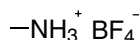
CAS No. : 28302-50-3  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $CH_6PF_6N$   
 M.W. : 177.03 g/mole



LT-S9246

Methylammonium tetrafluoroborate

CAS No. : 42539-74-2  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $CH_6BF_4N$   
 M.W. : 118.87 g/mole

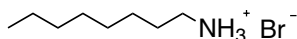


LT-S9247

**In Stock**

n-Octylammonium bromide

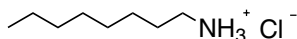
CAS No. : 14846-47-0  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_8H_{20}BrN$   
 M.W. : 210.16 g/mole



LT-S9248

n-Octylammonium chloride

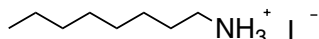
CAS No. : 142-95-0  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_8H_{20}ClN$   
 M.W. : 165.7 g/mole



LT-S9249

n-Octylammonium iodide

CAS No. : 60734-63-6  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_8H_{20}IN$   
 M.W. : 257.16 g/mole

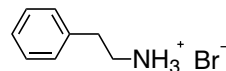


LT-S9250

**In Stock**

Phenethylammonium bromide

CAS No. : 53916-94-2  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_8H_{12}BrN$   
 M.W. : 202.09 g/mole

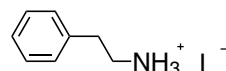


LT-S9251

**In Stock**

Phenethylammonium iodide

CAS No. : 151059-43-7  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_8H_{12}IN$   
 M.W. : 249.09 g/mole

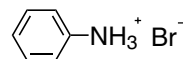


LT-S9252

**In Stock**

Phenylammonium bromide

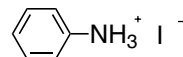
CAS No. : 542-11-0  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_6H_8BrN$   
 M.W. : 174.04 g/mole



LT-S9253

Phenylammonium iodide

CAS No. : 45497-73-2  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_6H_8IN$   
 M.W. : 221.04 g/mole

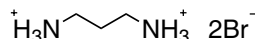


LT-S9254

**In Stock**

1,3-Diammoniumpropane bromide

CAS No. : 18773-03-0  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_3H_{12}Br_2N_2$   
 M.W. : 235.95 g/mole

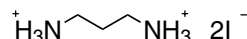


LT-S9255

**In Stock**

1,3-Diammoniumpropane iodide

CAS No. : 120675-53-8  
 Grade : >99.5% , recrystallized 4 times  
 Formula :  $C_3H_{12}I_2N_2$   
 M.W. : 329.95 g/mole



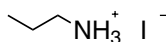
# Perovskite Precursors

LT-S9256

**In Stock**

n-Propylammonium iodide

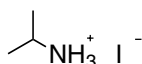
CAS No. : 14488-45-0  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_3H_{10}IN$   
M.W. : 187.02 g/mole



LT-S9257

iso-Propylammonium iodide

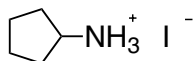
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_3H_{10}IN$   
M.W. : 187.02 g/mole



LT-S9258

Pyrrolidinium iodide

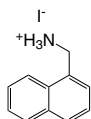
CAS No. : 45361-12-4  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_4H_{10}IN$   
M.W. : 199.03 g/mole



LT-S9286

1-Naphthylmethylamine iodide

CAS No. : 256222-11-4  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_{11}H_{12}IN$   
M.W. : 285.12 g/mole

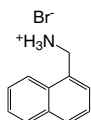


LT-S9287

**In Stock**

1-Naphthylmethylamine bromide

CAS No. : 217309-83-6  
Grade : >99.5% , recrystallized 4 times  
Formula :  $C_{11}H_{12}BrN$   
M.W. : 238.12 g/mole



LT-S9300

Butane-1,4-diammonium iodide

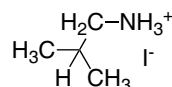
CAS No. : 916849-52-0  
Grade : >99%  
Formula :  $C_4H_{14}I_2N_2$   
M.W. : 343.98 g/mole



LT-S9301

iso-Butylammonium iodide

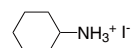
CAS No. : 205508-75-4  
Grade : >99%  
Formula :  $C_4H_{12}IN$   
M.W. : 201.05 g/mole



LT-S9302

Cyclohexylammonium iodide

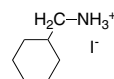
CAS No. : 45492-87-3  
Grade : >99%  
Formula :  $C_6H_{14}IN$   
M.W. : 227.09 g/mole



LT-S9303

Cyclohexylmethylammonium iodide

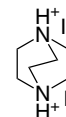
Grade : >99%  
Formula :  $C_7H_{16}IN$   
M.W. : 241.11 g/mole



LT-S9304

1,4-Diazabicyclo[2,2,2]octane-1,4-dium iodide

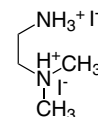
CAS No. : 33322-06-4  
Grade : >99%  
Formula :  $C_6H_{14}I_2N_2$   
M.W. : 368 g/mole



LT-S9305

N,N-Dimethyl-1,2-ethanediammonium iodide

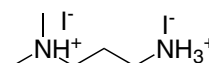
CAS No. : 244234-52-4  
Grade : >99%  
Formula :  $C_4H_{14}I_2N_2$   
M.W. : 343.98 g/mole



LT-S9306

N,N-Dimethyl-1,3-propanediammonium iodide

Grade : >99%  
Formula :  $C_5H_{16}I_2N_2$   
M.W. : 358 g/mole

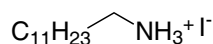


# Perovskite Precursors

## LT-S9307

n-Dodecylammonium iodide

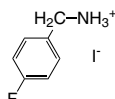
CAS No. : 34099-97-3  
 Grade : >99%  
 Formula : C<sub>12</sub>H<sub>28</sub>IN  
 M.W. : 313.26 g/mole



## LT-S9308

4-Fluoro-benzylammonium iodide

CAS No. : 2097121-30-5  
 Grade : >99%  
 Formula : C<sub>7</sub>H<sub>9</sub>FIN  
 M.W. : 253.06 g/mole

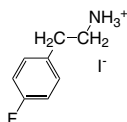


## LT-S9309

**In Stock**

4-Fluoro-phenethylammonium iodide

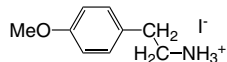
CAS No. : 1413269-55-2  
 Grade : >99%  
 Formula : C<sub>8</sub>H<sub>11</sub>FIN  
 M.W. : 267.08 g/mole



## LT-S9311

4-Methoxy-phenethylammonium iodide

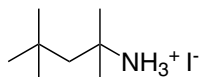
Grade : >99%  
 Formula : C<sub>9</sub>H<sub>14</sub>INO  
 M.W. : 279.12 g/mole



## LT-S9312

tert-Octylammonium iodide

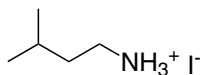
Grade : >99%  
 Formula : C<sub>8</sub>H<sub>20</sub>IN  
 M.W. : 257.16 g/mole



## LT-S9313

iso-Pentylammonium iodide

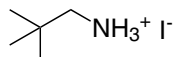
Grade : >99%  
 Formula : C<sub>5</sub>H<sub>14</sub>IN  
 M.W. : 215.06 g/mole



## LT-S9314

neo-Pentylammonium iodide

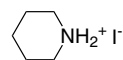
Grade : >99%  
 Formula : C<sub>5</sub>H<sub>14</sub>IN  
 M.W. : 215.08 g/mole



## LT-S9315

Piperidinium iodide

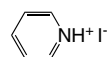
CAS No. : 21701-42-8  
 Grade : >99%  
 Formula : C<sub>5</sub>H<sub>12</sub>IN  
 M.W. : 213.06 g/mole



## LT-S9316

Pyridinium iodide

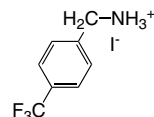
CAS No. : 18820-83-2  
 Grade : >99%  
 Formula : C<sub>5</sub>H<sub>6</sub>IN  
 M.W. : 207.01 g/mole



## LT-S9317

4-Trifluoromethyl-benzylammonium iodide

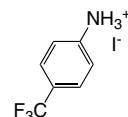
Grade : >99%  
 Formula : C<sub>8</sub>H<sub>9</sub>F<sub>3</sub>IN  
 M.W. : 303.06 g/mole



## LT-S9318

4-Trifluoromethyl-phenylammonium iodide

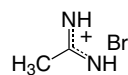
Grade : >99%  
 Formula : C<sub>7</sub>H<sub>7</sub>F<sub>3</sub>N  
 M.W. : 289.04 g/mole



## LT-S9319

Acetamidinium bromide

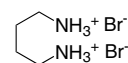
CAS No. : 1040352-82-6  
 Grade : >99%  
 Formula : C<sub>2</sub>H<sub>7</sub>BrN<sub>2</sub>  
 M.W. : 138.99 g/mole



## LT-S9320

Butane-1,4-diammonium bromide

CAS No. : 18773-04-1  
 Grade : >99%  
 Formula : C<sub>4</sub>H<sub>14</sub>Br<sub>2</sub>N<sub>2</sub>  
 M.W. : 249.98 g/mole

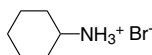


# Perovskite Precursors

## LT-S9321

Cyclohexylammonium bromide

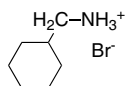
CAS No. : 26227-54-3  
Grade : >99%  
Formula :  $C_6H_{14}BrN$   
M.W. : 180.09 g/mole



## LT-S9322

Cyclohexylmethylammonium bromide

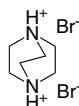
Grade : >99%  
Formula :  $C_7H_{16}BrN$   
M.W. : 194.11 g/mole



## LT-S9323

1,4-Diazabicyclo[2,2,2]octane-1,4-dium bromide

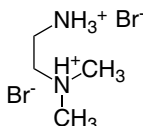
CAS No. : 54581-69-0  
Grade : >99%  
Formula :  $C_6H_{14}Br_2N_2$   
M.W. : 274 g/mole



## LT-S9324

N,N-Dimethylethane-1,2-ethanediammonium bromide

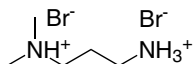
CAS No. : 1245570-04-0  
Grade : >99%  
Formula :  $C_4H_{14}Br_2N_2$   
M.W. : 249.98 g/mole



## LT-S9325

N,N-Dimethyl-1,3-propanediammonium bromide

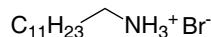
Grade : >99%  
Formula :  $C_5H_{16}Br_2N_2$   
M.W. : 264 g/mole



## LT-S9326

n-Dodecylammonium bromide

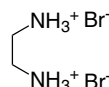
CAS No. : 26204-55-7  
Grade : >99%  
Formula :  $C_{12}H_{28}BrN$   
M.W. : 266.26 g/mole



## LT-S9327

Ethane-1,2-diammonium bromide

CAS No. : 624-59-9  
Grade : >99%  
Formula :  $C_2H_{10}Br_2N_2$   
M.W. : 221.92 g/mole

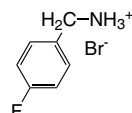


## LT-S9328

**In Stock**

4-Fluoro-benzylammonium bromide

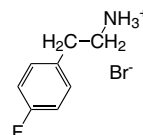
Grade : >99%  
Formula :  $C_7H_9FBrN$   
M.W. : 206.06 g/mole



## LT-S9329

4-Fluoro-phenethylammonium bromide

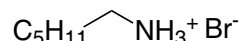
CAS No. : 1807536-06-6  
Grade : >99%  
Formula :  $C_8H_{11}BrFN$   
M.W. : 220.08 g/mole



## LT-S9330

n-Hexylammonium bromide

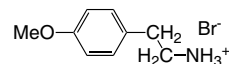
CAS No. : 7334-95-4  
Grade : >99%  
Formula :  $C_6H_{16}BrN$   
M.W. : 182.1 g/mole



## LT-S9331

4-Methoxy-phenethylammonium bromide

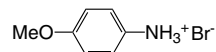
Grade : >99%  
Formula :  $C_9H_{14}BrNO$   
M.W. : 232.12 g/mole



## LT-S9332

4-Methoxy-phenylammonium bromide

CAS No. : 116436-31-8  
Grade : >99%  
Formula :  $C_9H_{14}BrNO$   
M.W. : 232.12 g/mole

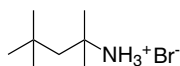


# Perovskite Precursors

## LT-S9333

tert-Octylammonium bromide

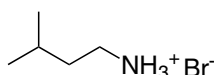
CAS No. : 1093859-61-0  
Grade : >99%  
Formula :  $C_8H_{20}BrN$   
M.W. : 210.16 g/mole



## LT-S9334

iso-Pentylammonium bromide

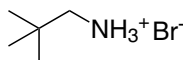
Grade : >99%  
Formula :  $C_5H_{14}BrN$   
M.W. : 168.08 g/mole



## LT-S9335

neo-Pentylammonium bromide

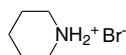
Grade : >99%  
Formula :  $C_5H_{14}BrN$   
M.W. : 168.08 g/mole



## LT-S9336

Piperidinium bromide

CAS No. : 14066-85-4  
Grade : >99%  
Formula :  $C_5H_{12}BrN$   
M.W. : 166.06 g/mole

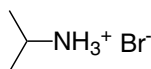


## LT-S9337

**In Stock**

iso-Propylammonium bromide

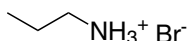
CAS No. : 29552-58-7  
Grade : >99%  
Formula :  $C_3H_{10}BrN$   
M.W. : 140.02 g/mole



## LT-S9338

n-Propylammonium bromide

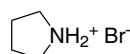
CAS No. : 4905-83-3  
Grade : >99%  
Formula :  $C_3H_{10}BrN$   
M.W. : 140.02 g/mole



## LT-S9339

Pyrrolidinium bromide

CAS No. : 55810-80-5  
Grade : >99%  
Formula :  $C_4H_{10}BrN$   
M.W. : 152.03 g/mole



## LT-S9340

Quinuclidin-1-ium bromide

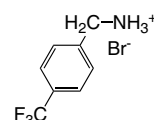
CAS No. : 60662-68-2  
Grade : >99%  
Formula :  $C_7H_{14}BrN$   
M.W. : 192.1 g/mole



## LT-S9341

4-Trifluoromethyl-benzylammonium bromide

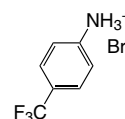
Grade : >99%  
Formula :  $C_8H_9F_3BrN$   
M.W. : 256.06 g/mole



## LT-S9342

4-Trifluoromethyl-phenylammonium bromide

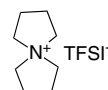
Grade : >99%  
Formula :  $C_7H_7BrF_3N$   
M.W. : 242.03 g/mole



## LT-S9343

5-Azaspiro[4.4]nonan-5-ium bis(trifluoromethane)sulfonimide

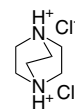
CAS No. : 706759-44-6  
Grade : >99%  
Formula :  $C_{10}H_{16}F_6N_2O_4S_2$   
M.W. : 406.37 g/mole



## LT-S9344

1,4-Diazabicyclo[2.2.2]octane-1,4-dium chloride

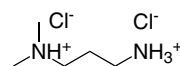
CAS No. : 49563-87-3  
Grade : >99%  
Formula :  $C_6H_{14}Cl_2N_2$   
M.W. : 185.09 g/mole



## LT-S9345

N,N-Dimethyl-1,3-propanediammonium chloride

CAS No. : 52198-63-7  
Grade : >99%  
Formula :  $C_5H_{16}Cl_2N_2$   
M.W. : 175.1 g/mole



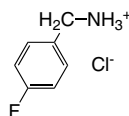
# Perovskite Precursors

**LT-S9346**

**In Stock**

4-Fluoro-benzylammonium chloride

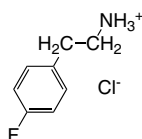
CAS No. : 659-41-6  
 Grade : >99%  
 Formula :  $C_7H_9FCIN$   
 M.W. : 161.6 g/mole



**LT-S9347**

4-Fluoro-phenethylammonium chloride

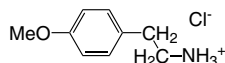
CAS No. : 459-19-8  
 Grade : >99%  
 Formula :  $C_8H_{11}ClFN$   
 M.W. : 175.63 g/mole



**LT-S9348**

4-Methoxy-phenethylammonium chloride

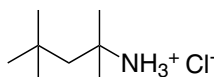
CAS No. : 645-58-9  
 Grade : >99%  
 Formula :  $C_9H_{14}ClNO$   
 M.W. : 187.67 g/mole



**LT-S9349**

tert-Octylammonium chloride

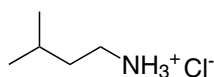
CAS No. : 58618-91-0  
 Grade : >99%  
 Formula :  $C_8H_{20}ClN$   
 M.W. : 165.7 g/mole



**LT-S9350**

iso-Pentylammonium chloride

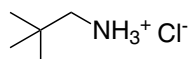
CAS No. : 541-23-1  
 Grade : >99%  
 Formula :  $C_5H_{14}ClN$   
 M.W. : 123.62 g/mole



**LT-S9351**

neo-Pentylammonium chloride

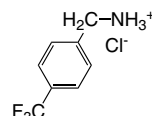
CAS No. : 15925-18-5  
 Grade : >99%  
 Formula :  $C_5H_{14}ClN$   
 M.W. : 123.62 g/mole



**LT-S9352**

4-Trifluoromethyl-benzylammonium chloride

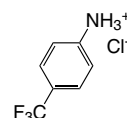
CAS No. : 3047-99-2  
 Grade : >99%  
 Formula :  $C_8H_9F_3ClN$   
 M.W. : 211.61 g/mole



**LT-S9353**

4-Trifluoromethyl-phenylammonium chloride

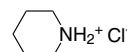
CAS No. : 90774-69-9  
 Grade : >99%  
 Formula :  $C_7H_7ClF_3N$   
 M.W. : 197.59 g/mole



**LT-S9354**

Piperidinium chloride

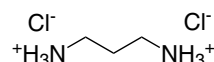
CAS No. : 6091-44-7  
 Grade : >99%  
 Formula :  $C_5H_{12}ClN$   
 M.W. : 121.61 g/mole



**LT-S9355**

Propane-1,3-diammonium chloride

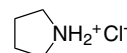
CAS No. : 10517-44-9  
 Grade : >99%  
 Formula :  $C_3H_{12}Cl_2N_2$   
 M.W. : 147.05 g/mole



**LT-S9356**

Pyrrolidinium chloride

CAS No. : 25150-61-2  
 Grade : >99%  
 Formula :  $C_4H_{10}ClN$   
 M.W. : 107.58 g/mole



**LT-S9357**

Quinuclidin-1-ium chloride

CAS No. : 39896-06-5  
 Grade : >99%  
 Formula :  $C_7H_{14}ClN$   
 M.W. : 147.65 g/mole

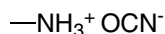


# Perovskite Precursors

## LT-S9358

### Methylammonium cyanate

CAS No. : 63405-91-4  
 Grade : >99%  
 Formula :  $C_2H_6N_2O$   
 M.W. : 74.08 g/mole



## LT-S9359

### 5-Azaspiro[4.4]nonan-5-ium tetrafluoroborate

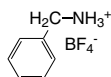
CAS No. : 129211-47-8  
 Grade : >99%  
 Formula :  $C_8H_{16}BF_4N$   
 M.W. : 213.02 g/mole



## LT-S9360

### Benzylammonium tetrafluoroborate

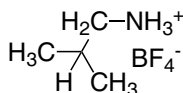
CAS No. : 41579-49-1  
 Grade : >99%  
 Formula :  $C_7H_{10}BF_4N$   
 M.W. : 194.97 g/mole



## LT-S9361

### iso-Butylammonium tetrafluoroborate

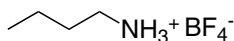
CAS No. : 71852-72-7  
 Grade : >99%  
 Formula :  $C_4H_{12}BF_4N$   
 M.W. : 160.95 g/mole



## LT-S9362

### n-Butylammonium tetrafluoroborate

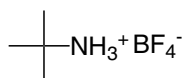
CAS No. : 71852-73-8  
 Grade : >99%  
 Formula :  $C_4H_{12}BF_4N$   
 M.W. : 160.95 g/mole



## LT-S9363

### t-Butylammonium tetrafluoroborate

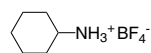
CAS No. : 24418-92-6  
 Grade : >99%  
 Formula :  $C_4H_{13}BF_4N$   
 M.W. : 160.95 g/mole



## LT-S9364

### Cyclohexylammonium tetrafluoroborate

CAS No. : 71893-43-1  
 Grade : >99%  
 Formula :  $C_6H_{14}BF_4N$   
 M.W. : 186.99 g/mole



## LT-S9365

### 1,4-Diazabicyclo[2.2.2]octane-1,4-dium tetrafluoroborate

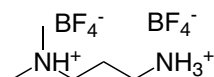
Grade : >99%  
 Formula :  $C_6H_{14}B_2F_8N_2$   
 M.W. : 287.8 g/mole



## LT-S9366

### N,N-Dimethyl-1,3-propanediammonium tetrafluoroborate

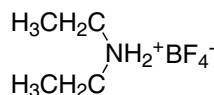
Grade : >99%  
 Formula :  $C_6H_{16}B_2F_8N_2$   
 M.W. : 277.8 g/mole



## LT-S9367

### Diethylammonium tetrafluoroborate

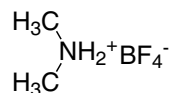
CAS No. : 17085-33-5  
 Grade : >99%  
 Formula :  $C_4H_{12}BF_4N$   
 M.W. : 160.95 g/mole



## LT-S9368

### Dimethylammonium tetrafluoroborate

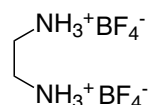
CAS No. : 16970-97-1  
 Grade : >99%  
 Formula :  $C_2H_8BF_4N$   
 M.W. : 132.9 g/mole



## LT-S9369

### Ethane-1,2-diammonium tetrafluoroborate

Grade : >99%  
 Formula :  $C_2H_{10}B_2F_8N_2$   
 M.W. : 235.72 g/mole

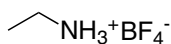


# Perovskite Precursors

## LT-S9370

Ethylammonium tetrafluoroborate

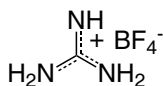
CAS No. : 12070-78-9  
 Grade : >99%  
 Formula :  $C_2H_8BF_4N$   
 M.W. : 132.9 g/mole



## LT-S9371

Guanidinium tetrafluoroborate

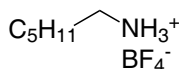
CAS No. : 36595-00-3  
 Grade : >99%  
 Formula :  $CH_6BF_4N_3$   
 M.W. : 146.88 g/mole



## LT-S9372

n-Hexylammonium tetrafluoroborate

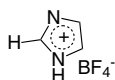
CAS No. : 41579-47-9  
 Grade : >99%  
 Formula :  $C_6H_{16}BF_4N$   
 M.W. : 378.01 g/mole



## LT-S9373

Imidazolium tetrafluoroborate

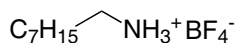
CAS No. : 112725-76-5  
 Grade : >99%  
 Formula :  $C_3H_5BF_4N_2$   
 M.W. : 155.89 g/mole



## LT-S9374

n-Octylammonium tetrafluoroborate

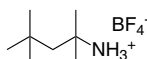
CAS No. : 790269-39-5  
 Grade : >99%  
 Formula :  $C_8H_{20}BF_4N$   
 M.W. : 217.06 g/mole



## LT-S9375

tert-Octylammonium tetrafluoroborate

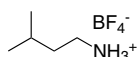
Grade : >99%  
 Formula :  $C_8H_{20}BF_4N$   
 M.W. : 217.06 g/mole



## LT-S9376

iso-Pentylammonium tetrafluoroborate

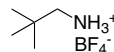
CAS No. : 150178-33-9  
 Grade : >99%  
 Formula :  $C_5H_{14}BF_4N$   
 M.W. : 174.97 g/mole



## LT-S9377

neo-Pentylammonium tetrafluoroborate

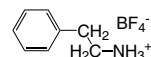
Grade : >99%  
 Formula :  $C_5H_{14}BF_4N$   
 M.W. : 174.98 g/mole



## LT-S9378

Phenethylammonium tetrafluoroborate

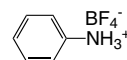
Grade : >99%  
 Formula :  $C_8H_{12}BF_4N$   
 M.W. : 208.99 g/mole



## LT-S9379

Phenylammonium tetrafluoroborate

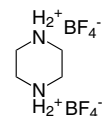
CAS No. : 3796-29-0  
 Grade : >99%  
 Formula :  $C_6H_8BF_4N$   
 M.W. : 180.94 g/mole



## LT-S9380

Piperazine-1,4-dium tetrafluoroborate

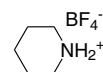
Grade : >99%  
 Formula :  $C_4H_{12}B_2F_8N_2$   
 M.W. : 261.76 g/mole



## LT-S9381

Piperidinium tetrafluoroborate

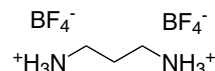
CAS No. : 20935-77-7  
 Grade : >99%  
 Formula :  $C_5H_{12}BF_4N$   
 M.W. : 172.96 g/mole



## LT-S9382

Propane-1,3-diammonium tetrafluoroborate

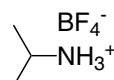
Grade : >99%  
 Formula :  $C_3H_{12}B_2F_8N_2$   
 M.W. : 249.75 g/mole



## LT-S9383

iso-Propylammonium tetrafluoroborate

CAS No. : 71852-74-9  
 Grade : >99%  
 Formula :  $C_3H_{10}BF_4N$   
 M.W. : 146.92 g/mole

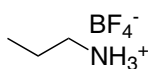


# Perovskite Precursors

## LT-S9384

n-Propylammonium tetrafluoroborate

CAS No. : 71852-75-0  
 Grade : >99%  
 Formula :  $C_3H_9BF_4N$   
 M.W. : 146.92 g/mole



## LT-S9385

Pyridinium tetrafluoroborate

CAS No. : 505-07-7  
 Grade : >99%  
 Formula :  $C_5H_6BF_4N$   
 M.W. : 166.91 g/mole



## LT-S9386

Pyrrolidinium tetrafluoroborate

CAS No. : 95647-26-0  
 Grade : >99%  
 Formula :  $C_4H_9BF_4N$   
 M.W. : 158.93 g/mole



## LT-S9387

Quinuclidin-1-ium tetrafluoroborate

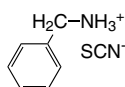
CAS No. : 936025-25-1  
 Grade : >99%  
 Formula :  $C_7H_{14}BF_4N$   
 M.W. : 199 g/mole



## LT-S9388

Benzylammonium thiocyanate

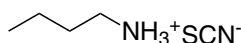
CAS No. : 51571-89-2  
 Grade : >99%  
 Formula :  $C_8H_{10}N_2S$   
 M.W. : 166.24 g/mole



## LT-S9389

n-Butylammonium thiocyanate

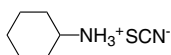
CAS No. : 25162-84-9  
 Grade : >99%  
 Formula :  $C_5H_{12}N_2S$   
 M.W. : 132.23 g/mole



## LT-S9390

Cyclohexylammonium thiocyanate

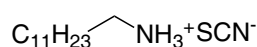
CAS No. : 96943-17-8  
 Grade : >99%  
 Formula :  $C_7H_{14}N_2S$   
 M.W. : 158.26 g/mole



## LT-S9391

n-Dodecylammonium thiocyanate

CAS No. : 22031-31-8  
 Grade : >99%  
 Formula :  $C_{13}H_{28}N_2S$   
 M.W. : 244.44 g/mole

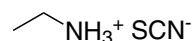


## LT-S9392

**In Stock**

Ethylammonium thiocyanate

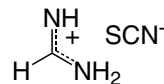
CAS No. : 25153-19-9  
 Grade : >99%  
 Formula :  $C_3H_8N_2S$   
 M.W. : 104.17 g/mole



## LT-S9393

Formamidinium thiocyanate

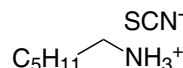
CAS No. : 1821033-48-0  
 Grade : >99%  
 Formula :  $CH_3N_3S$   
 M.W. : 103.15 g/mole



## LT-S9394

n-Hexylammonium thiocyanate

CAS No. : 25162-85-0  
 Grade : >99%  
 Formula :  $C_7H_{16}N_2S$   
 M.W. : 160.28 g/mole



## LT-S9395

Methylammonium thiocyanate

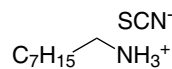
CAS No. : 61540-63-4  
 Grade : >99%  
 Formula :  $C_2H_6N_2S$   
 M.W. : 90.15 g/mole



## LT-S9396

n-Octylammonium thiocyanate

CAS No. : 25162-86-1  
 Grade : >99%  
 Formula :  $C_9H_{20}N_2S$   
 M.W. : 188.33 g/mole

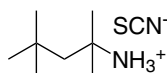


# Perovskite Precursors

## LT-S9397

### tert-Octylammonium thiocyanate

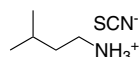
CAS No. : 41115-58-6  
 Grade : >99%  
 Formula : C<sub>9</sub>H<sub>20</sub>N<sub>2</sub>S  
 M.W. : 188.33 g/mole



## LT-S9398

### iso-Pentylammonium thiocyanate

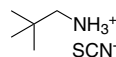
Grade : >99%  
 Formula : C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>S  
 M.W. : 146.25 g/mole



## LT-S9399

### neo-Pentylammonium thiocyanate

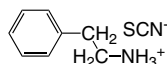
CAS No. : 61540-71-4  
 Grade : >99%  
 Formula : C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>S  
 M.W. : 146.25 g/mole



## LT-S9400

### Phenethylammonium thiocyanate

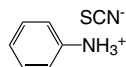
Grade : >99%  
 Formula : C<sub>9</sub>H<sub>12</sub>N<sub>2</sub>S  
 M.W. : 180.27 g/mole



## LT-S9401

### Phenylammonium thiocyanate

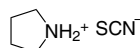
CAS No. : 27248-14-2  
 Grade : >99%  
 Formula : C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>S  
 M.W. : 152.22 g/mole



## LT-S9402

### Pyrrolidinium thiocyanate

CAS No. : 217309-80-3  
 Grade : >99%  
 Formula : C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>S  
 M.W. : 130.21 g/mole



## LT-S9403

### 5-Azaspiro[4.4]nonan-5-ium hexafluorophosphate

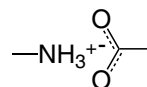
CAS No. : 129211-50-3  
 Grade : >99%  
 Formula : C<sub>8</sub>H<sub>16</sub>F<sub>6</sub>NP  
 M.W. : 271.18 g/mole



## LT-S9404

### Methylammonium acetate

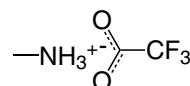
CAS No. : 6998-30-7  
 Grade : >99%  
 Formula : C<sub>3</sub>H<sub>9</sub>NO<sub>2</sub>  
 M.W. : 91.11 g/mole



## LT-S9405

### Methylammonium trifluoroacetate

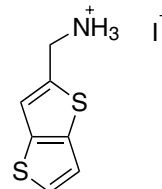
CAS No. : 107326-29-4  
 Grade : >99%  
 Formula : C<sub>3</sub>H<sub>7</sub>F<sub>3</sub>NO<sub>2</sub>  
 M.W. : 146.09 g/mole



## LT-S9588 TTMAI

### Thieno[3,2-b]thiophen-2-ylmethanaminium iodide

Grade : > 99.5%  
 Formula : C<sub>7</sub>H<sub>8</sub>INS<sub>2</sub>  
 M.W. : 297.18 g/mole

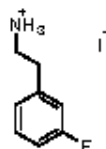


## LT-S9680

**In Stock**

### 3-Fluoro-phenethylammonium iodide

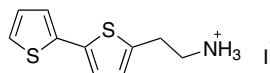
CAS No. : 2810129-43-0  
 Grade : >99%  
 Formula : C<sub>8</sub>H<sub>11</sub>FIN  
 M.W. : 267.08 g/mole



## LT-S9644 2TEAI

### 2-([2,2'-Bithiophen]-5-yl)ethan-1-aminium iodide

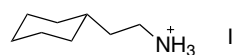
Grade : >99%  
 Formula : C<sub>10</sub>H<sub>12</sub>INS<sub>2</sub>  
 M.W. : 337.24 g/mole



## LT-S9645 CEAI

### Cyclohexylethylammonium iodide

Grade : >99%  
 Formula : C<sub>8</sub>H<sub>18</sub>I<sub>2</sub>  
 M.W. : 255.14 g/mole



## LT-S9690

## Cesium bromide

CAS No. :7787-69-1  
Grade :99.9% trace metals basis  
Formula :CsBr  
M.W. :212.81 g/mole



## LT-S9691

## Cesium chloride

CAS No. :7647-17-8  
Grade :99.9% trace metals basis  
Formula :CsCl  
M.W. :168.36 g/mole



## LT-S9692

## Cesium iodide

CAS No. :7789-17-5  
Grade :99.9% trace metals basis  
Formula :CsI  
M.W. :259.81 g/mole



## LT-S9693

## Copper(II) chloride dihydrate

CAS No. :10125-13-0  
Grade :>99%  
Formula :CuCl<sub>2</sub> · 2H<sub>2</sub>O  
M.W. :170.48 g/mole



## LT-S9694

## Tin(II) bromide

CAS No. :10031-24-0  
Grade :>99%  
Formula :SnBr<sub>2</sub>  
M.W. :278.52 g/mole



## LT-S9695

## Tin(II) chloride

CAS No. :7772-99-8  
Grade :>99%  
Formula :SnCl<sub>2</sub>  
M.W. :189.62 g/mole



## LT-S9696

## Tin(II) iodide

CAS No. :10294-70-9  
Grade :>99%  
Formula :SnI<sub>2</sub>  
M.W. :372.52 g/mole



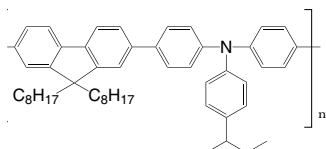
# Hole Transport

## LT-N148 | TFB

**In Stock**

Poly[(9,9-dioctylfluorenyl-2,7-diyl)-co-(4,4'-(N-(4-sec-butylphenyl)diphenylamine)]

CAS No. : 220797-16-0  
 Grade : Mw >30,000 (GPC)  
 Formula : (C<sub>51</sub>H<sub>61</sub>N)<sub>n</sub>  
 UV : 389 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 PL : 443 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 Solubility : Soluble in CH<sub>2</sub>Cl<sub>2</sub>, Toluene, CHCl<sub>3</sub>

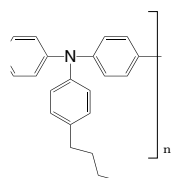


## LT-N149 | Poly-TPD

**In Stock**

Poly[N,N'-bis(4-butylphenyl)-N,N'-bis(phenyl)-benzidine]

CAS No. : 472960-35-3  
 Grade : Mw = 20,000~200,000 (GPC)  
 Formula : (C<sub>22</sub>H<sub>21</sub>N)<sub>n</sub>  
 UV : 371, 388 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 PL : 424 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 Solubility : Soluble in CHCl<sub>3</sub>, Chlorobenzene

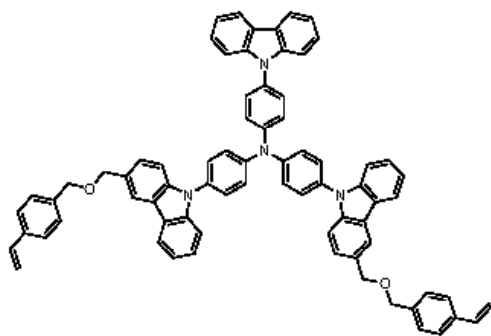


## LT-N1013 | VB-TCTA

**In Stock**

N-(4-(9H-carbazol-9-yl)phenyl)-4-(3-(((4-vinylbenzyl)oxy)methyl)-9H-carbazol-9-yl)-N-(4-(3-(((4-vinylbenzyl)oxy)methyl)-9H-carbazol-9-yl)phenyl)aniline

CAS No. : 931398-01-5  
 Grade : >98%  
 Formula : C<sub>74</sub>H<sub>56</sub>N<sub>4</sub>O<sub>2</sub>  
 M.W. : 1033.26 g/mole  
 HOMO : -5.2 eV  
 LUMO : -1.9 eV

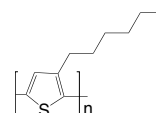


## LT-S909 | P3HT

**In Stock**

Poly(3-hexylthiophene-2,5-diyl)

CAS No. : 110134-47-9 / 104934-50-1  
 Grade : Mw >45,000 (GPC)  
 Electronic Grade : Regio Regular >93%  
 Formula : (C<sub>10</sub>H<sub>14</sub>S)<sub>n</sub>  
 UV : 445 nm (in THF)  
 PL : 564 nm (in THF)  
 Solubility : Soluble in CHCl<sub>3</sub>, Chlorobenzene, Dichlorobenzene

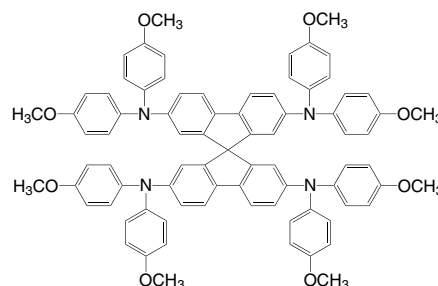


## LT-S922 | Spiro-MeOTAD

**In Stock**

2,2',7,7'-Tetrakis(N,N-di-p-methoxyphenylamino)-9,9'-spirobifluorene

CAS No. : 207739-72-8  
 Grade : >99.5% (HPLC)  
 Formula : C<sub>81</sub>H<sub>68</sub>N<sub>4</sub>O<sub>8</sub>  
 M.W. : 1225.43 g/mole  
 UV : 306, 385 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 PL : 429 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : >360 °C (0.5% weight loss)

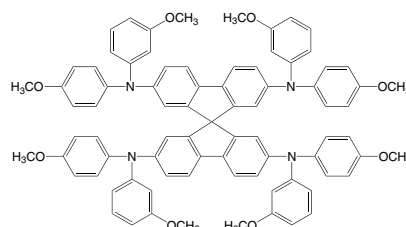


## LT-S9145 | p,m-Spiro-MeOTAD

**In Stock**

N<sup>2</sup>,N<sup>2</sup>,N<sup>7</sup>,N<sup>7</sup>-Tetrakis(3-methoxyphenyl)-N<sup>2</sup>,N<sup>2</sup>,N<sup>7</sup>,N<sup>7</sup>-tetrakis(4-methoxyphenyl)-9,9'-spirobifluorene-2,2',7,7'-tetraamine

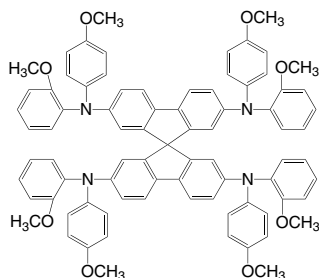
CAS No. : 1573202-44-4  
 Grade : >99% (HPLC)  
 Formula : C<sub>81</sub>H<sub>68</sub>N<sub>4</sub>O<sub>8</sub>  
 M.W. : 1225.43 g/mole  
 UV : 308, 378 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 PL : 414 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : >280 °C (0.5% weight loss)



## LT-S9146 | p,o-Spiro-MeOTAD **In Stock**

*N*<sup>2</sup>,*N*<sup>2</sup>,*N*<sup>7</sup>,*N*<sup>7</sup>-Tetrakis(2-methoxyphenyl)-*N*<sup>2</sup>,*N*<sup>2</sup>,*N*<sup>7</sup>,*N*<sup>7</sup>-tetrakis(4-methoxyphenyl)-9,9'-spirobifluorene]-2,2',7,7'-tetraamine

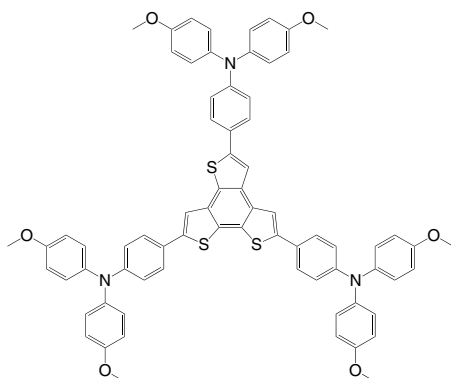
CAS No. : 1628961-22-7  
 Grade : >98.5% (HPLC)  
 Formula : C<sub>81</sub>H<sub>68</sub>N<sub>4</sub>O<sub>8</sub>  
 M.W. : 1225.43 g/mole  
 UV : 316, 375 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 PL : 418 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : >280 °C (0.5% weight loss)



## LT-S9276 | BTT-4

2,5,8-Tris(4-(bis(4-methoxyphenyl)amino)phenyl)benzotrithiophene

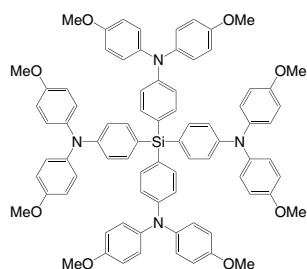
CAS No. : 1908506-93-3  
 Formula : C<sub>72</sub>H<sub>57</sub>N<sub>3</sub>O<sub>6</sub>S<sub>3</sub>  
 M.W. : 1156.43 g/mole



## LT-S9290 | Si-OMeTPA **In Stock**

4,4',4''-Silane-tetrayl-tetrakis(N,N-bis(4-methoxyphenyl)aniline)

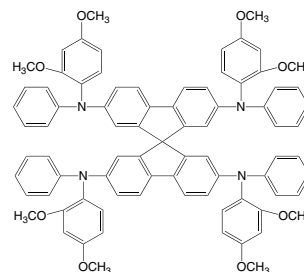
Grade : >99% (HPLC)  
 Formula : C<sub>80</sub>H<sub>72</sub>N<sub>4</sub>O<sub>8</sub>Si  
 M.W. : 1245.54 g/mole  
 HOMO : -5.39 eV  
 LUMO : -1.96 eV



## LT-S9437 | 2,4-spiro-OMeTAD **In Stock**

*N*<sup>2</sup>,*N*<sup>2</sup>,*N*<sup>7</sup>,*N*<sup>7</sup>-Tetrakis(2,4-dimethoxyphenyl)-*N*<sup>2</sup>,*N*<sup>2</sup>,*N*<sup>7</sup>,*N*<sup>7</sup>-tetraphenyl-9,9'-spirobifluorene]-2,2',7,7'-tetraamine

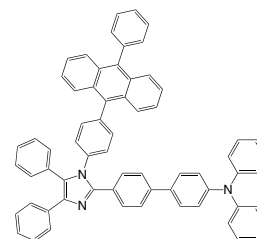
CAS No. : 2102348-92-3  
 Grade : >99% (HPLC)  
 Formula : C<sub>61</sub>H<sub>68</sub>N<sub>4</sub>O<sub>8</sub>  
 M.W. : 1225.43 g/mole  
 HOMO : -5.24 eV  
 LUMO : -2.08 eV



## LT-S9446 | PTN **In Stock**

*N,N*-Diphenyl-[1,1'-biphenyl]-4-amine-4'-[4,5-diphenyl-1-[4-(10-phenyl-9-4'-[4,5-diphenyl-1-[4-(10-phenyl-9-anthracenyl)phenyl]-1*H*-imidazol-2-yl]

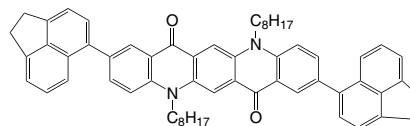
CAS No. : 2252254-01-4  
 Grade : Sublimed >99%  
 Formula : C<sub>65</sub>H<sub>45</sub>N<sub>3</sub>  
 M.W. : 868.07 g/mole  
 PCE : 11.13 %



## LT-S9484 | ACE-QA-ACE **In Stock**

2,9-Bis(1,2-dihydroacenaphthylen-5-yl)-5,12-dioctyl-5,12-dihydroquinolino[2,3-*b*]acridine-7,14-dione

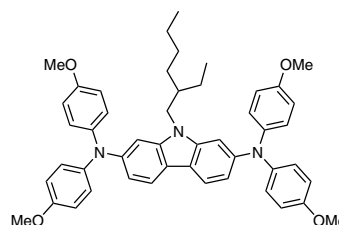
Grade : >99% (HPLC)  
 Formula : C<sub>60</sub>H<sub>60</sub>N<sub>2</sub>O<sub>2</sub>  
 M.W. : 841.13 g/mole  
 UV : 301 nm (in CHCl<sub>3</sub>)  
 PL : 558 nm  
 HOMO : -5.59 eV  
 LUMO : -3.47 eV



## LT-S9555 | EH-44

9-(2-Ethylhexyl)-*N*<sup>2</sup>,*N*<sup>2</sup>,*N*<sup>7</sup>,*N*<sup>7</sup>-tetrakis(4-methoxyphenyl)-9*H*-carbazole-2,7-diamine hydrochloride salt

Grade : >99%  
 Formula : C<sub>48</sub>H<sub>51</sub>N<sub>3</sub>O<sub>4</sub>  
 M.W. : 733.94 g/mole



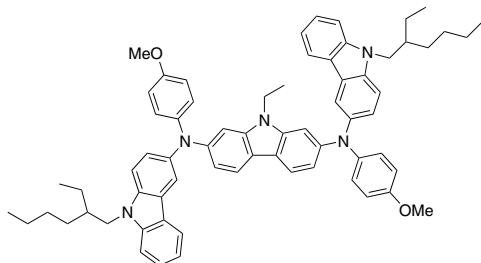
# Hole Transport

## LT-S9556 | EtCz-3EHCz

**In Stock**

9-Ethyl-*N*,*N'*-bis(9-(2-ethylhexyl)-9H-carbazol-3-yl)-*N*,*N'*-bis(4-methoxyphenyl)-9H-carbazole-2,7-diamine hydrochloride salt

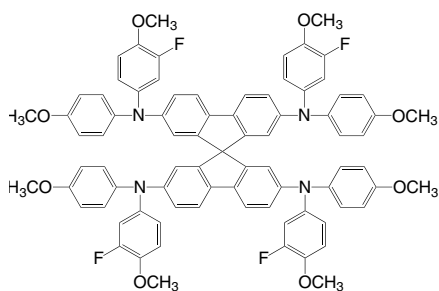
Grade : >99%  
Formula :  $C_{68}H_{73}N_5O_2$   
M.W. : 992.34 g/mole



## LT-S9564 | Spiro-mF

*N*,*N'*,*N''*,*N'''*-Tetrakis(3-fluoro-4-methoxyphenyl)-*N*,*N'*,*N''*,*N'''*-tetrakis(4-methoxyphenyl)-9,9'-spirobifluorene]-2,2',7,7'-tetraamine

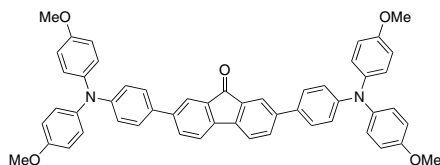
Grade : >99%  
Formula :  $C_{81}H_{64}F_4N_4O_8$   
M.W. : 1297.39 g/mole  
HOMO : -5.19 eV  
LUMO : -2.23 eV



## LT-S9651 | TPA-2F

2,7-Bis(4-(bis(4-methoxyphenyl)amino)phenyl)-9H-fluoren

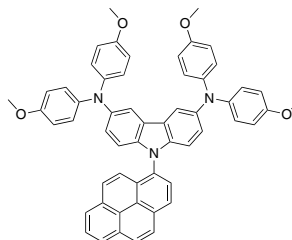
Grade : >99%  
Formula :  $C_{53}H_{42}N_2O_5$   
M.W. : 786.91 g/mole  
HOMO : -5.35 eV  
LUMO : -3.23 eV



## LT-S9654 | Cz-Pyr

$N_3,N_3,N_6,N_6$ -Tetrakis(4-methoxyphenyl)-9-(pyren-1-yl)-9H-carbazole-3,6-diamine

Grade : >99%  
Formula :  $C_{56}H_{43}N_3O_4$   
M.W. : 821.96 g/mole  
HOMO : -5.18 eV  
LUMO : -2.32 eV



## LT-PS001 | PEDOT:PSS

**In Stock**

Poly(3,4-ethylenedioxythiophene)-poly(styrenesulfonate)

### Specification

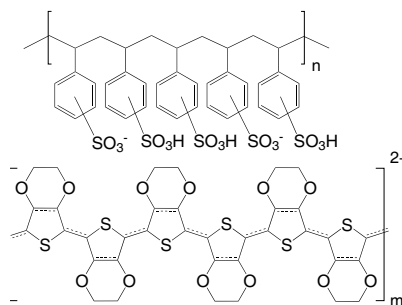
Description : Aqueous dispersion, blue liquid.  
Sodium : Max. 400 ppm  
Sulfate : Max. 40 ppm  
Solid content: 1.3 - 1.7 wt%  
PSD d50 : 80 nm  
PSD d90 : 100 nm  
Resistivity : 500-5000  $\Omega$ cm  
Viscosity : 5-12 mPas

### Technical Data (guide values, not a specification)

Form : liquid  
Odour : odourless  
Colour : dark blue  
PEDOT:PSS ratio : 1:6 (by weight)  
PEDOT work function : approx 5.2 eV  
pH : 1.2 - 2.2 at 20°C  
Boiling Point : approx 100°C

### Storage:

The product is sensitive to frost and should therefore not be stored at temperatures below 5°C.  
Avoid freezing!

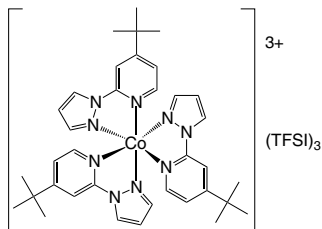


# Hole Transport Dopant

## LT-S9127 | FK209 Co(III) TFSI Salt *In Stock*

Tris(2-(1*H*-pyrazol-1-yl)-4-*tert*-butylpyridine)-cobalt(III) tris(bis(trifluoromethylsulfonyl)imide)

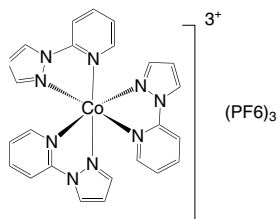
CAS No. : 1447938-61-5  
Grade : >99% (NMR)  
Formula :  $C_{42}H_{45}CoF_{18}N_{12}O_{12}S_6$   
M.W. : 1503.18 g/mole  
UV : 227, 287 nm (in Acetonitrile)



## LT-S9135 | FK102 Co(III) PF6 Salt *In Stock*

Tris(1-(pyridin-2-yl)-1*H*-pyrazol)cobalt(III) tris(hexafluorophosphate)

CAS No. : 1346416-70-3  
Grade : >99% (NMR)  
Formula :  $C_{24}H_{21}CoF_{18}N_9P_3$   
UV : 929.31 g/mole  
PL : 215, 292 nm (in Acetonitrile)

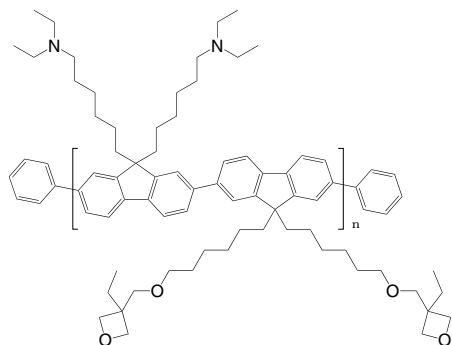


# Hole Transport / Electron Transport

## LT-N177 | PFN-OX In Stock

Poly[2,7-[9,9-bis(6'-(N,N-diethylamino)hexyl)fluorene]-alt-2,7-[9,9-bis(6'-((3-ethyloxetan-3-yl)methoxy)hexyl)fluorene]]

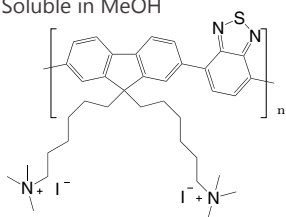
CAS No. : 1345045-27-3  
 Formula :  $(C_{70}H_{102}N_2O_4)_n C_{12}H_{10}$   
 UV :  $378 \pm 10$  nm (in THF)  
 Solubility : Soluble in THF,  $CHCl_3$



## LT-N181 | PFNIBT In Stock

Poly(9,9-bis(6-trimethylammoniumiodide)-hexylfluorene-2,7-diyl-alt(benzo[2,1,3]thiadiazol-4,7-diyl))

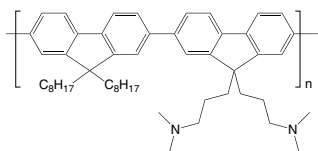
Grade : Mw > 10,000 (GPC)  
 Formula :  $(C_{35}H_{42}I_2N_4S)_n$   
 UV : 317, 448 nm (in DMSO)  
 Solubility : Soluble in MeOH



## LT-N4027 | PFN-DOF In Stock

Poly[(9,9-bis(3'-(N,N-dimethylamino)propyl)-2,7-fluorene)-alt-2,7-(9,9-dioctylfluorene)]

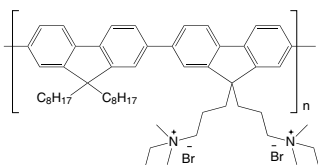
CAS No. : 673474-75-4  
 Grade : Mw > 10,000 (GPC)  
 Formula :  $(C_{52}H_{70}N_2)_n$   
 UV : 378 nm (in  $CH_2Cl_2$ )  
 PL : 414 nm (in  $CH_2Cl_2$ )  
 Solubility : Soluble in  $CH_2Cl_2$ ,  $CHCl_3$ , Toluene



## LT-N878 | PFN-Br In Stock

Poly[(9,9-bis(3'-(N,N-dimethyl)-N-ethylammonium)-propyl)-2,7-fluorene]-alt-2,7-(9,9-dioctylfluorene) dibromide

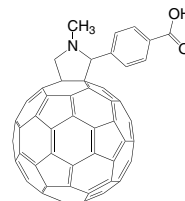
CAS No. : 889672-99-5  
 Grade : Mw > 10,000 (GPC)  
 Formula :  $(C_{56}H_{80}N_2Br_2)_n$   
 UV : 375 nm (in MeOH)  
 PL : 440 nm (in MeOH)  
 Solubility : Soluble in MeOH



## LT-S9161 | C<sub>60</sub>-COOH-SAM In Stock

4-(1',5'-Dihydro-1'-methyl-2'H-[5,6]fullereno-C<sub>60</sub>-1h-[1,9-c]pyrrol-2'-yl)benzoic acid

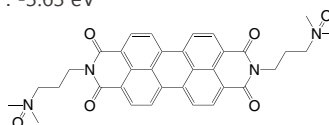
CAS No. : 631918-72-4  
 Grade : >99%  
 Formula :  $C_{70}H_{11}NO_2$   
 M.W. : 897.84 g/mole  
 UV : 345 nm (in  $CH_2Cl_2$ )



## LT-S9479 | PDINO In Stock

2,9-Bis[3-(dimethyloxidoamino)propyl]anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-1,3,8,10(2H,9H)-tetrone

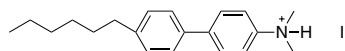
CAS No. : 1558023-86-1  
 Grade : >97%  
 Formula :  $C_{34}H_{32}N_4O_6$   
 M.W. : 592.64 g/mole  
 HOMO : -6.21 eV  
 LUMO : -3.63 eV



## LT-S9646 | HBPC In Stock

4'-Hexyl-N,N-dimethyl-[1,1'-biphenyl]-4-aminium iodide

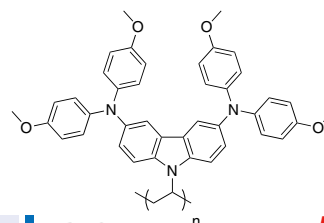
Grade : >99%  
 Formula :  $C_{20}H_{28}IN$   
 M.W. : 409.35 g/mole



## LT-S9652 | PV(Cz-DMPA) In Stock

Poly[3,6-bis[N,N'-di(4-methoxyphenyl)amino]-9-vinyl-carbazole]

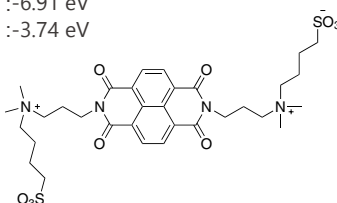
Grade : Mw > 10,000  
 Formula :  $(C_{42}H_{37}N_3O_4)_n$   
 HOMO : -5.24 eV  
 LUMO : -2.49 eV



## LT-S9653 | NDI-B In Stock

4,4'-(((1,3,6,8-Tetraoxo-1,3,6,8-tetrahydrobenzo[Imn][3,8]phenanthroline-2,7-diyl)bis(propane-3,1-diyl))bis(dimethylammoniumdiyl))bis(butane-1-sulfonate)

Grade : >98%  
 Formula :  $C_{32}H_{44}N_4O_{10}S_2$   
 M.W. : 708.84 g/mole  
 HOMO : -6.91 eV  
 LUMO : -3.74 eV

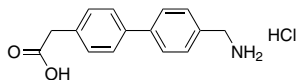


# — Self-Assembled Monolayers Materials —

## LT-S9647

4'-(Aminomethyl)-[1,1'-biphenyl]-4-acetic acid

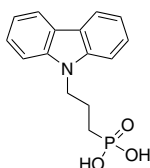
Grade :>99%  
Formula :C<sub>15</sub>H<sub>16</sub>ClNO<sub>2</sub>  
M.W. :277.75 g/mole



## LT-S9648 | 3PACz

(3-(9H-carbazol-9-yl)propyl)phosphonic acid

Grade :>99%  
Formula :C<sub>15</sub>H<sub>16</sub>NO<sub>3</sub>P  
M.W. :289.27 g/mole

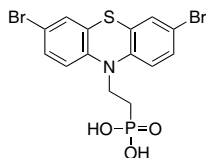


## LT-S9649 | Br-2EPT

**In Stock**

(2-(3,7-Dibromo-10H-phenothiazin-10-yl)ethyl)phosphonic acid

Grade :>99%  
Formula :C<sub>14</sub>H<sub>12</sub>BrNO<sub>3</sub>PS  
M.W. :465.10 g/mole  
HOMO :-5.47 eV  
LUMO :-2.12 eV

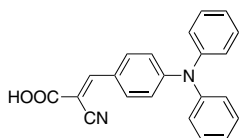


## LT-S9650 | LS1

**In Stock**

2-Cyano-3-[4-(N-phenylanilino)phenyl]prop-2-enoic acid

CAS No. :30388-31-9  
Grade :>99%  
Formula :C<sub>22</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>  
M.W. :340.37 g/mole

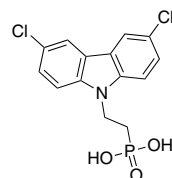


## LT-S9673 | Cl-2PACz

**In Stock**

(2-(3,6-Dichloro-9H-carbazol-9-yl)ethyl)phosphonic acid

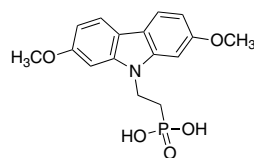
Grade :>98%  
Formula :C<sub>14</sub>H<sub>12</sub>Cl<sub>2</sub>NO<sub>3</sub>P  
M.W. :344.13  
HOMO :-6.05  
LUMO :-2.67



## LT-S9674 | DC-PA

(2-(2,7-Dimethoxy-9H-carbazol-9-yl)ethyl)phosphonic acid

Grade :>98%  
Formula :C<sub>16</sub>H<sub>18</sub>NO<sub>5</sub>P  
M.W. :335.29

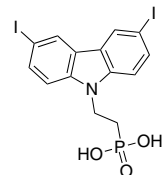


## LT-S9675 | I-2PACz

**In Stock**

(2-(3,6-Diiodo-9H-carbazol-9-yl)ethyl)phosphonic acid

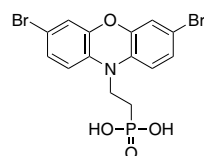
Grade :>98%  
Formula :C<sub>14</sub>H<sub>12</sub>I<sub>2</sub>NO<sub>3</sub>P  
M.W. :527.03  
HOMO :-5.98  
LUMO :-2.61



## LT-S9676 | Br-2EPO

(2-(3,7-Dibromo-10H-phenoxazin-10-yl)ethyl)phosphonic acid

Grade :>98%  
Formula :C<sub>14</sub>H<sub>12</sub>Br<sub>2</sub>NO<sub>4</sub>P  
M.W. :449.03  
HOMO :-5.25  
LUMO :-1.81



## LT-S9677 | CbzNaph

**In Stock**

(4-(7H-dibenzo[*c,g*]carbazol-7-yl)butyl)phosphonic acid

CAS No. :2882156-63-8

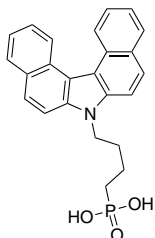
Grade :>98%

Formula :C<sub>28</sub>H<sub>22</sub>NO<sub>3</sub>P

M.W. :403.41

HOMO :-5.35

LUMO :-2.28



## LT-S9678 | 2BrPTZPA

**In Stock**

(4-(3,7-dibromo-10H-phenothiazin-10-yl)butyl)phosphonic acid

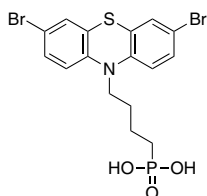
Grade :>98%

Formula :C<sub>16</sub>H<sub>16</sub>Br<sub>2</sub>NO<sub>3</sub>PS

M.W. :493.15

HOMO :-5.34

LUMO :-1.16



## LT-S9679 | 2BrPXZPA

(4-(3,7-dibromo-10H-phenoxazin-10-yl)butyl)phosphonic acid

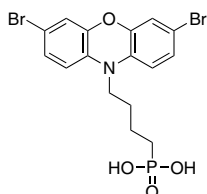
Grade :>98%

Formula :C<sub>16</sub>H<sub>16</sub>Br<sub>2</sub>NO<sub>4</sub>P

M.W. :477.08

HOMO :-5.22

LUMO :-1.01



## LT-S9667 | MPA-Ph-CA

**In Stock**

(Z)-3-(4'-(Bis(4-methoxyphenyl)amino)-[1,1'-biphenyl]-4-yl)-2-cyanoacrylic acid

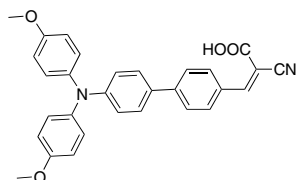
Grade :>99%

Formula :C<sub>30</sub>H<sub>24</sub>N<sub>2</sub>O<sub>4</sub>

M.W. :476.52

HOMO :-5.39

LUMO :-2.64



## LT-S9557 | Me-4PACz

**In Stock**

(4-(3,6-Dimethyl-9H-carbazol-9-yl)butyl)phosphonic acid

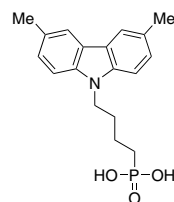
Grade :>99%

Formula :C<sub>18</sub>H<sub>22</sub>NO<sub>3</sub>P

M.W. :331.35 g/mole

HOMO :-5.74 eV

LUMO :-2.49 eV



## LT-S9566 | 2PACz

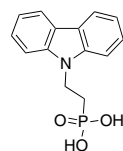
(2-(9H-carbazol-9-yl)ethyl)phosphonic acid

CAS No. :20999-38-6

Grade :>99%

Formula :C<sub>14</sub>H<sub>14</sub>NO<sub>3</sub>P

M.W. :275.24 g/mole



## LT-S9567 | 4PACz

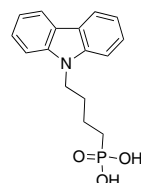
(4-(9H-carbazol-9-yl)butyl)phosphonic acid

CAS No. :20999-36-4

Grade :>99%

Formula :C<sub>16</sub>H<sub>18</sub>NO<sub>3</sub>P

M.W. :303.29 g/mole



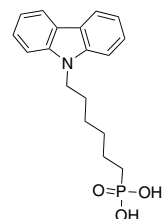
## LT-S9568 | 6PACz

(6-(9H-carbazol-9-yl)hexyl)phosphonic acid

Grade :>98%

Formula :C<sub>18</sub>H<sub>22</sub>NO<sub>3</sub>P

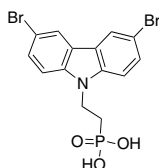
M.W. :331.35 g/mole



## LT-S9569 | Br-2PACz

(2-(3,6-Dibromo-9H-carbazol-9-yl)ethyl)phosphonic acid

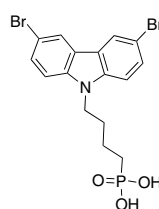
Grade :>98%  
 Formula :C<sub>14</sub>H<sub>12</sub>Br<sub>2</sub>NO<sub>3</sub>P  
 M.W. :433.03 g/mole  
 HOMO :-6.01 eV  
 LUMO :-2.64 eV



## LT-S9570 | Br-4PACz

(4-(3,6-Dibromo-9H-carbazol-9-yl)butyl)phosphonic acid

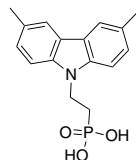
Grade :>98%  
 Formula :C<sub>16</sub>H<sub>16</sub>Br<sub>2</sub>NO<sub>3</sub>P  
 M.W. :461.08 g/mole



## LT-S9571 | Me-2PACz

(2-(3,6-Dimethyl-9H-carbazol-9-yl)ethyl)phosphonic acid

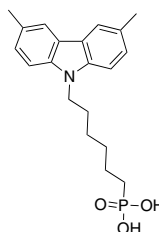
Grade :>98%  
 Formula :C<sub>16</sub>H<sub>18</sub>NO<sub>3</sub>P  
 M.W. :303.29 g/mole



## LT-S9572 | Me-6PACz

(6-(3,6-Dimethyl-9H-carbazol-9-yl)hexyl)phosphonic acid

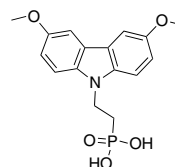
Grade :>98%  
 Formula :C<sub>20</sub>H<sub>26</sub>NO<sub>3</sub>P  
 M.W. :359.4 g/mole



## LT-S9573 | MeO-2PACz

(2-(3,6-Dimethoxy-9H-carbazol-9-yl)ethyl)phosphonic acid

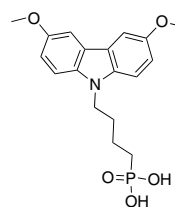
CAS No. :2377770-18-6  
 Grade :>98%  
 Formula :C<sub>16</sub>H<sub>18</sub>NO<sub>5</sub>P  
 M.W. :335.29 g/mole  
 HOMO :-5.3 eV  
 LUMO :-2.12 eV



## LT-S9574 | MeO-4PACz

(4-(3,6-Dimethoxy-9H-carbazol-9-yl)butyl)phosphonic acid

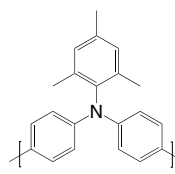
Grade :>98%  
 Formula :C<sub>18</sub>H<sub>22</sub>NO<sub>5</sub>P  
 M.W. :363.34 g/mole



## LT-N168 | PTAA

Poly[bis(4-phenyl)(2,4,6-trimethylphenyl)amine]

CAS No. :1333317-99-9  
 Grade :Mw = 20,000~100,000 (GPC)  
 Formula :(C<sub>21</sub>H<sub>19</sub>N)<sub>n</sub>  
 UV :371, 388 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 PL :424 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 Solvent :Soluble in CHCl<sub>3</sub>, Chlorobenzene, Dichlorobenzene



## LT-S9583 | EADR03

4-(3,6-Bis(2,4-dimethoxyphenyl))

Grade :>99%  
 Formula :C<sub>35</sub>H<sub>29</sub>NO<sub>6</sub>  
 M.W. :559.61 g/mole  
 HOMO :-5.05 eV  
 LUMO :-1.77 eV

