

LT-S9126

Methylammonium iodide

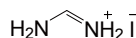
CAS No. : 14965-49-2
 Grade : > 99.5% , recrystallized 4 times
 Formula : CH_3IN
 M.W. : 158.97 g/mole
 Reference : *ACS Nano*, 2014, 8 (2), pp 1674-1680



LT-S9136

Formamidinium iodide

CAS No. : 879643-71-7
 Grade : > 99.5% , recrystallized 4 times
 Formula : CH_2IN_2
 M.W. : 171.97 g/mole
 Reference : *Energy Environ. Sci.*, 2014, 7, 982-988



LT-S9137

Methylammonium bromide

CAS No. : 6876-37-5
 Grade : > 99.5% , recrystallized 4 times
 Formula : CH_3BrN
 M.W. : 111.97 g/mole
 Reference : *Energy Environ. Sci.*, 2014, 7, 982-988

LT-S9147 PbI₂

Lead(II) iodide

CAS No. : 10101-63-0
 Grade : 99.999% (trace metals basis)
 Formula : PbI_2
 M.W. : 461.01 g/mole
 Reference : 1. *Science*, 345, 542(2014)
 2. *ACS Nano*, 2014, 8 (2), pp 1674-1680

LT-S9148 PbCl₂

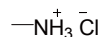
Lead(II) chloride

CAS No. : 7758-95-4
 Grade : 99.999% (trace metals basis)
 Formula : PbCl_2
 M.W. : 278.11 g/mole
 Reference : 1. *Science*, 345, 542(2014)
 2. *ACS Nano*, 2014, 8 (2), pp 1674-1680

LT-S9151 Methylammonium chloride

Methylammonium chloride

CAS No. : 593-51-1
 Grade : > 99.5% , recrystallized 4 times
 Formula : CH_3ClN
 M.W. : 67.52 g/mole
 Reference : *Chem. Mater.*, 2013, 25 (22), pp 4613-4618

LT-S9152 PbBr₂

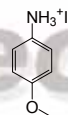
Lead(II) bromide

CAS No. : 10031-22-8
 Grade : 99.999% (trace metals basis)
 Formula : PbBr_2
 M.W. : 367.01 g/mole

LT-S9206

4-Methoxyphenylammonium iodide

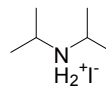
Grade : >99.5% , recrystallized 4 times
 Formula : $\text{C}_7\text{H}_{10}\text{INO}$
 M.W. : 251.06 g/mole



LT-S9207

Diisopropylammonium iodide

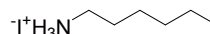
Grade : >99.5% , recrystallized 4 times
 Formula : $\text{C}_6\text{H}_{16}\text{IN}$
 M.W. : 229.1 g/mole



LT-S9208

Hexylammonium iodide

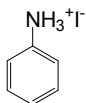
Grade : >99.5% , recrystallized 4 times
 Formula : $\text{C}_6\text{H}_{16}\text{IN}^+$
 M.W. : 229.1 g/mole



LT-S9209

Hexylammonium iodide

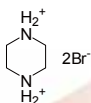
Grade : >99.5% , recrystallized 4 times
 Formula : $C_6H_{16}IN^+$
 M.W. : 229.1 g/mole



LT-S9217

Piperazine-1,4-dium bromide

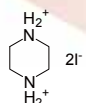
CAS No. : 59813-05-7
 Formula : $C_4H_{12}Br_2N_2$
 M.W. : 247.96 g/mole



LT-S9218

Piperazine-1,4-dium iodide

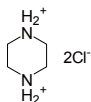
CAS No. : 58464-47-4
 M.W. : $C_4H_{12}I_2N_2$
 UV : 341.96 g/mole



LT-S9219

Piperazine-1,4-dium chloride

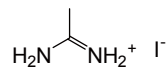
CAS No. : 142-64-3
 Formula : $C_4H_{12}Cl_2N_2$
 M.W. : 159.06 g/mole



LT-S9220

Acetamidinium iodide

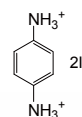
CAS No. : 1452099-14-7
 Formula : $C_2H_7IN_2$
 M.W. : 185.99 g/mole



LT-S9224

1,4-Benzene diammonium iodide

CAS No. : 116469-02-4
 Formula : $C_6H_{10}I_2N_2$
 M.W. : 363.97 g/mole



LT-S9225

Benzylammonium bromide

CAS No. : 37488-40-7
 Formula : C_7H_9BrN
 M.W. : 188.06 g/mole



LT-S9226

Benzylammonium iodide

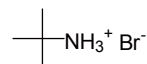
Formula : C_7H_10IN
 M.W. : 235.07 g/mole



LT-S9227

t-Butylammonium bromide

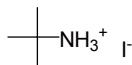
CAS No. : 60469-70-7
 Formula : $C_4H_{12}BrN$
 M.W. : 154.05 g/mole



LT-S9228

t-Butylammonium iodide

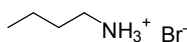
CAS No. : 39557-45-4
 Formula : $C_4H_{12}IN$
 M.W. : 201.05 g/mole



LT-S9229

n-Butylammonium bromide

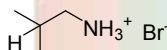
CAS No. : 15567-09-6
 Formula : $C_4H_{12}BrN$
 M.W. : 154.05 g/mole



LT-S9230

iso-Butylammonium bromide

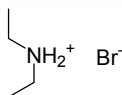
Formula : $C_4H_{12}BrN$
 M.W. : 154.05 g/mole



LT-S9231

Diethylammonium bromide

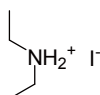
CAS No. : 6274-12-0
 Formula : $C_4H_{12}BrN$
 M.W. : 154.05 g/mole



LT-S9232

Diethylammonium iodide

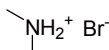
CAS No. : 19833-78-4
 Formula : $C_4H_{12}IN$
 M.W. : 201.05 g/mole



LT-S9233

Dimethylammonium bromide

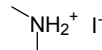
CAS No. : 6912-12--5
 Formula : C_2H_8BrN
 M.W. : 126 g/mole



LT-S9234

Dimethylammonium iodide

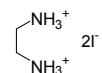
CAS No. : 51066-74-1
 Formula : C_2H_8IN
 M.W. : 173 g/mole



LT-S9235

Ethane 1,2 diammonium iodide

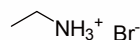
CAS No. : 5700-49-2
 Formula : $C_2H_{10}I_2N_2$
 M.W. : 315.92 g/mole



LT-S9236

Ethylammonium bromide

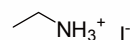
CAS No. : 593-55-5
 Formula : C_2H_8BrN
 M.W. : 125.99 g/mole



LT-S9237

Ethylammonium iodide

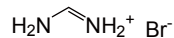
CAS No. : 506-58-1
 Formula : C_2H_8IN
 M.W. : 173 g/mole



LT-S9238

Formamidinium bromide

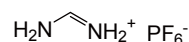
CAS No. : 146958-06-7
 Formula : CH_5BrN_2
 M.W. : 124.97 g/mole



LT-S9239

Formamidinium hexafluorophosphate

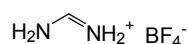
Formula : $CH_5F_6N_2P$
 M.W. : 190.03 g/mole



LT-S9240

Formamidinium tetrafluoroborate

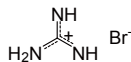
Formula : $CH_5BF_4N_2$
 M.W. : 131.87 g/mole



LT-S9241

Guanidinium bromide

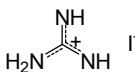
CAS No. : 19244-98-5
 Formula : CH_6BrN_3
 M.W. : 139.98 g/mole



LT-S9242

Guanidinium iodide

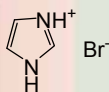
CAS No. : 19227-70-4
 Formula : CH_6IN_3
 M.W. : 186.98 g/mole



LT-S9243

Imidazolium bromide

CAS No. : 101023-55-6
 Formula : $\text{C}_3\text{H}_5\text{BrN}_2$
 M.W. : 148.99 g/mole



LT-S9244

Imidazolium iodide

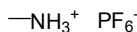
CAS No. : 68007-08-9
 Formula : $\text{C}_3\text{H}_5\text{IN}_2$
 M.W. : 195.99 g/mole



LT-S9245

Methylammonium hexafluorophosphate

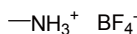
CAS No. : 28302-50-3
 Formula : $\text{CH}_6\text{PF}_6\text{N}$
 M.W. : 177.03 g/mole



LT-S9246

Methylammonium tetrafluoroborate

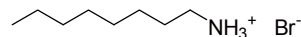
CAS No. : 42539-74-2
 Formula : $\text{CH}_6\text{BF}_4\text{N}$
 M.W. : 118.87 g/mole



LT-S9247

n-Octylammonium Bromide

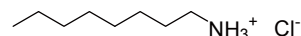
CAS No. : 14846-47-0
 Formula : $\text{C}_8\text{H}_{20}\text{BrN}$
 M.W. : 210.16 g/mole



LT-S9248

n-Octylammonium Chloride

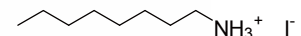
CAS No. : 142-95-0
 Formula : $\text{C}_8\text{H}_{20}\text{ClN}$
 M.W. : 165.7 g/mole



LT-S9249

n-Octylammonium Iodide

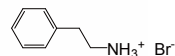
CAS No. : 60734-63-6
 Formula : $\text{C}_8\text{H}_{20}\text{IN}$
 M.W. : 257.16 g/mole



LT-S9250

Phenethylammonium bromide

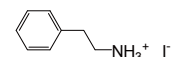
CAS No. : 53916-94-2
 Formula : $\text{C}_8\text{H}_{12}\text{BrN}$
 M.W. : 202.09 g/mole



LT-S9251

Phenethylammonium iodide

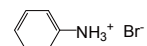
CAS No. : 151059-43-7
 Formula : $\text{C}_8\text{H}_{12}\text{IN}$
 M.W. : 249.09 g/mole



LT-S9252

Phenylammonium bromide

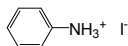
CAS No. : 542-11-0
 Formula : $\text{C}_6\text{H}_8\text{BrN}$
 M.W. : 174.04 g/mole



LT-S9253

Phenylammonium iodide

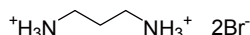
CAS No. : 45497-73-2
 Formula : C_6H_8IN
 M.W. : 221.04 g/mole



LT-S9254

Propane 1,3 diammonium bromide

CAS No. : 18773-03-0
 Formula : $C_3H_{12}Br_2N_2$
 M.W. : 235.95 g/mole



LT-S9255

Propane 1,3 diammonium iodide

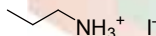
CAS No. : 120675-53-8
 Formula : $C_3H_{12}I_2N_2$
 M.W. : 329.95 g/mole



LT-S9256

n-Propylammonium iodide

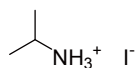
CAS No. : 14488-45-0
 Formula : $C_3H_{10}IN$
 M.W. : 187.02 g/mole



LT-S9257

iso-Propylammonium iodide

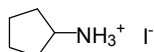
Formula : $C_3H_{10}IN$
 M.W. : 187.02 g/mole



LT-S9258

Pyrrolidinium Iodide

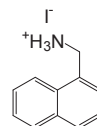
CAS No. : 45361-12-4
 Formula : $C_4H_{10}IN$
 M.W. : 199.03 g/mole



LT-S9286

1-Naphthylmethylamine iodide

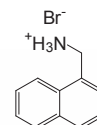
CAS No. : 256222-11-4
 Grade : >99%
 Formula : $C_{11}H_{12}IN$
 M.W. : 285.12 g/mole



LT-S9287

1-Naphthylmethylamine Bromide

CAS No. : 217309-83-6
 Grade : >99%
 Formula : $C_{11}H_{12}BrN$
 M.W. : 238.12 g/mole



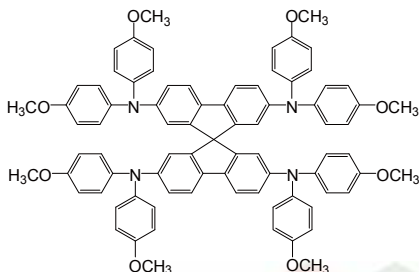
Lumtec

LT-S922 Spiro-MeOTAD

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

CAS No. : 207739-72-8
 Grade : > 99.5% (HPLC)
 Formula : $C_{81}H_{68}N_4O_8$
 M.W. : 1225.43 g/mole
 UV : 306, 385 nm (in CH_2Cl_2)
 PL : 429 nm (in CH_2Cl_2)
 TGA : > 360 °C (0.5% weight loss)

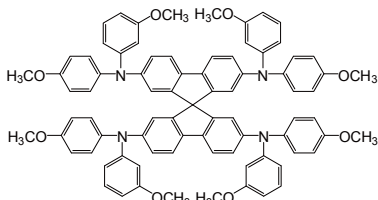
Reference : 1. *MRS. BULLETIN*, 30, 2005, p23
 2. *Appl. Phys. Lett.* 100, 173512 (2012)

**LT-S9145** p,m-Spiro-MeOTAD

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

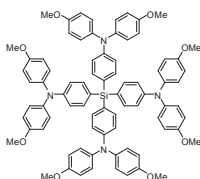
CAS No. : 1573202-44-4
 Grade : > 99% (HPLC)
 Formula : $C_{81}H_{68}N_4O_8$
 M.W. : 1225.43 g/mole
 UV : 308, 378 nm (in CH_2Cl_2)
 PL : 414 nm (in CH_2Cl_2)
 TGA : > 280 °C (0.5% weight loss)

Reference : *J. Am. Chem. Soc.* 2014, 136, 7837-7840

**LT-S9290** Si-OMeTPA

4,4',4'',4'''-silanetetrayltetrakis(*N,N*-bis(4-methoxyphenyl)aniline)

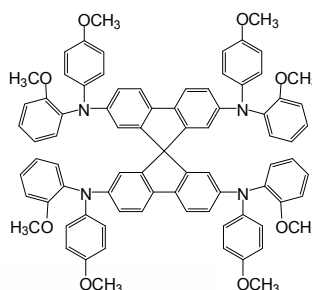
Grade : > 99% (HPLC)
 Formula : $C_{80}H_{72}N_4O_8Si$
 M.W. : 1245.54 g/mole
 HOMO : -5.39 eV
 LUMO : -1.96 eV

**LT-S9146** p,o-Spiro-MeOTAD

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

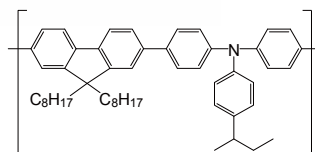
CAS No. : 1628961-22-7
 Grade : > 98.5% (HPLC)
 Formula : $C_{81}H_{68}N_4O_8$
 M.W. : 1225.43 g/mole
 UV : 316, 375 nm (in CH_2Cl_2)
 PL : 418 nm (in CH_2Cl_2)
 TGA : > 280 °C (0.5% weight loss)

Reference : *J. Am. Chem. Soc.* 2014, 136, 7837-7840

**LT-N148** TFB

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

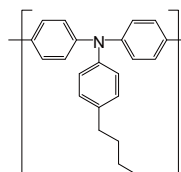
CAS No. : 220797-16-0
 Grade : $M_w > 30,000$ (GPC)
 Formula : $(C_{51}H_{61}N)_n$
 UV : 389 nm (in CH_2Cl_2)
 PL : 443 nm (in CH_2Cl_2)
 Solubility : Soluble in CH_2Cl_2 , Toluene, $CHCl_3$

**LT-N149** Poly-TPD

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

CAS No. : 472960-35-3
 Grade : $M_w > 10,000$ (GPC)
 Formula : $(C_{22}H_{21}N)_n$
 UV : 371, 388 nm (in CH_2Cl_2)
 PL : 424 nm (in CH_2Cl_2)
 Solubility : Soluble in $CHCl_3$, Chlorobenzene

Reference : *Nature Photonics* 8, 128-132 (2014)

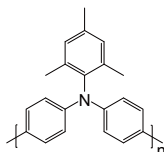


LT-N168 | PTAA

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

CAS No. : 1333317-99-9
 Grade : $M_w > 10,000$ (GPC)
 Formula : $(C_{21}H_{19}N)_n$
 UV : 371, 388 nm (in CH_2Cl_2)
 PL : 424 nm (in CH_2Cl_2)
 Solubility : Soluble in $CHCl_3$, Chlorobenzene, Dichlorobenzene

Reference : *Nature Photonics* 7, 486-491 (2013)

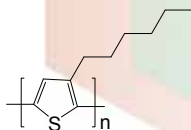


LT-S909 | P3HT

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

CAS No. : 104934-50-1
 Grade : $M_w > 45,000$ (GPC)
 Regioregular Electronic Grade > 93%
 Formula : $(C_{10}H_{14}S)_n$
 UV : 445 nm (in THF)
 PL : 564 nm (in THF)
 Solubility : Soluble in $CHCl_3$, Chlorobenzene, Dichlorobenzene

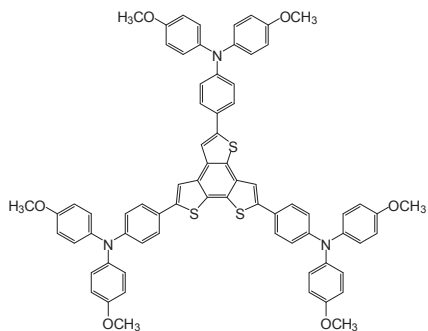
Reference : *Journal of Power Sources*, 251, (2014), 152-156



LT-S9276 | BTT-4

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

CAS No. : 1908506-93-3
 Formula : $C_{72}H_{57}N_3O_6S_3$
 M.W. : 1156.43 g/mole



LT-PS001 | PEDOT:PSS

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

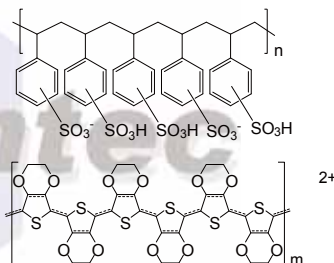
Specification
 Description : Aqueous dispersion, blue liquid.
 Sodium : Max. 400 ppm
 Sulfate : Max. 40 ppm
 Solid content : 1.3 - 1.7 wt%
 PSD d_{50} : 80 nm
 PSD d_{90} : 100 nm
 Resistivity : 500-5000 Ωcm
 Viscosity : 5-12 mPas

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!



LT-S9127 | FK209 Co(III) TFSI Salt

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

CAS No. : 1447938-61-5

Grade : >99% (NMR)

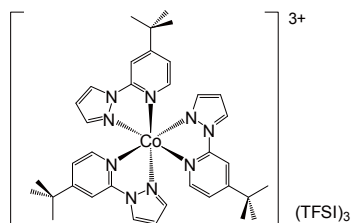
Formula : $C_{42}H_{45}CoF_{18}N_{12}O_{12}S_6$

M.W. : 1503.18 g/mole

UV : 227, 287 nm (in Acetonitrile)

Reference : 1. *J. Mater. Chem. A*, 2013,1, 11842-11847

2. *J. Am. Chem. Soc.*, 2013, 135 (51), pp 19087-19090

**LT-S9135** | FK102 Co(III) PF₆ Salt

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

CAS No. : 1346416-70-3

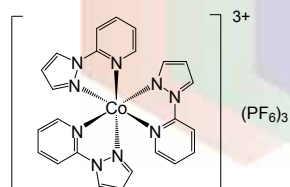
Grade : > 99% (NMR)

Formula : $C_{24}H_{21}CoF_{18}N_9P_3$

M.W. : 929.31 g/mole

UV : 215, 292 nm (in Acetonitrile)

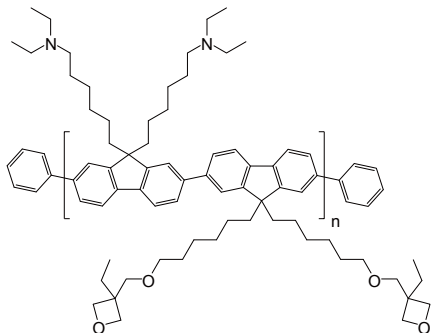
Reference : *J. Am. Chem. Soc.* 2011, 133, 18042-18045



LT-N177 | PFN-OX

6,6'-(9,9'-Bis(6-((3-ethoxyhexan-3-yl)methoxy)hexyl)-7,7'-diphenyl-9H,9'H-2,2'-bifluorene-9,9'-diyl)bis(N,N-diethylhexan-1-amine)

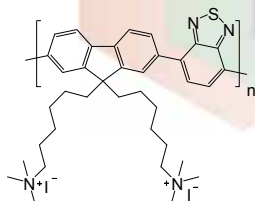
CAS No. : 1345045-27-3
 Grade : $M_w > 20,000$ (GPC)
 Formula : $(C_{70}H_{102}N_2O_4)_n C_{12}H_{10}$
 Reference : *J. Mater. Chem. C*, 2014,2, 3270-3277



LT-N181 | PFNIBT

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

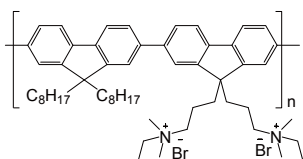
Grade : $M_w > 20,000$ (GPC)
 Formula : $(C_{37}H_{50}I_2N_4S)_n$
 M.W. : 670.91 g/mole
 Solubility : Soluble in $CHCl_3$, Chlorobenzene, Dichlorobenzene



LT-N878 | PFNBr

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

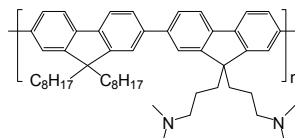
Grade : $M_w > 10,000$ (GPC)
 Formula : $(C_{56}H_{80}N_2Br_2)_n$
 UV : 375 nm (in MeOH)
 PL : 440 nm (in MeOH)
 Solubility : Soluble in MeOH
 Reference : *Chem. Mater.*, 2004, 16, 708



LT-N4027 | PFN-DOF

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

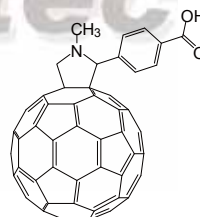
CAS No. : 673474-75-4
 Grade : $M_w > 10,000$ (GPC)
 Formula : $(C_{52}H_{70}N_2)_n$
 UV : 378 nm (in CH_2Cl_2)
 PL : 414 nm (in CH_2Cl_2)
 Solubility : Soluble in CH_2Cl_2 , $CHCl_3$, Toluene
 Reference : *Chem. Mater.*, Vol. 16, No. 4, 2004



LT-S9161 | C₆₀-COOH-SAM

4-(1',5'-dihydro-1'-methyl-2'H-[5,6]fullereno-C₆₀-1h-[1,9-c]pyrrol-2'-yl) benzoic acid

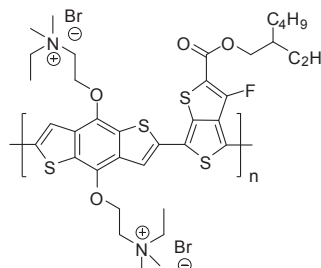
CAS No. : 631918-72-4
 Grade : > 99%
 Formula : $C_{70}H_{11}NO_2$
 M.W. : 897.84 g/mole
 UV : 345 nm (in CH_2Cl_2)
 Reference : 1. *Journal of Physical Chemistry Letters* (2015), 6(12), 2399-2405
 2. *ACS Nano* (2014), 8(12), 12701-12709



LT-S9274 | PTB7-NBr

Poly{4,8-bis{[(N,N-dimethyl)-N-ethylammonium]propyloxy}benzo[1,2-b:4,5-b']dithiophene-2,6-diyl-*alt*-3-fluoro-2-[(2-ethylhexyl)carbonyl]thieno[3,4-b]thiophene-4,6-diyl}

CAS No. : 2092936-05-3
 Grade : $M_w > 10,000$ (GPC)
 Formula : $(C_{37}H_{51}Br_2FN_2O_4S_4)_n$
 Reference : *Chem. Commun.*, 2017, 53, 2005-2008



LT-S9289 | PNDIT-F3N-Br

Poly[[2,7-bis(2-ethylhexyl)-1,2,3,6,7,8-hexahydro-1,3,6,8-tetraoxobenzo[Imn] [3,8]phenanthroline-4,9-diy]-2,5-thiophenediy][9,9-bis[3' ((N,N-dimethyl)-N-ethylammonium)]propyl]-9H-fluorene-2,7-diy]-2,5-thiophenediy]

CAS No. : 2169941-79-9

Grade : $M_w > 10,000$ (GPC)

Formula : $C_{65}H_{80}Br_2N_4O_4S_2$

UV : 380, 580 nm (in Methanol)

Reference : *J. Mater. Chem. A*, 2017, 5, 19447–19455

