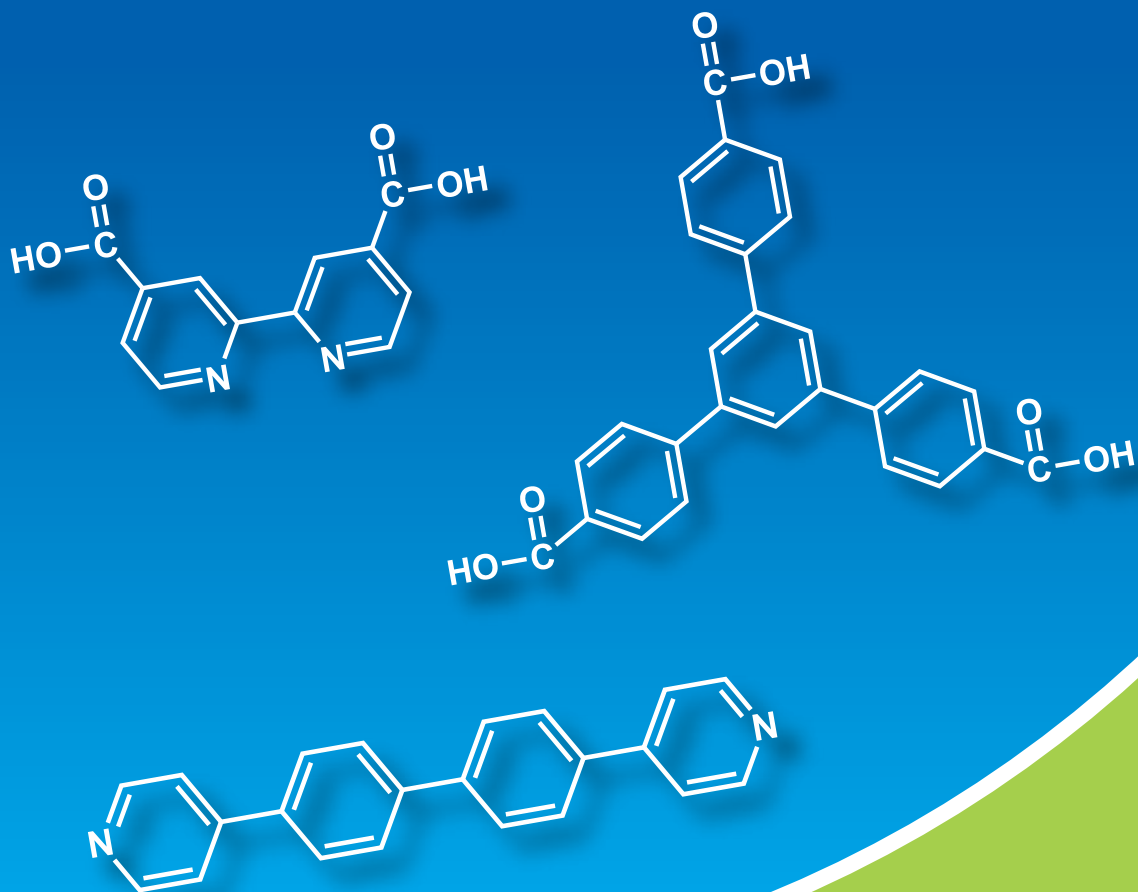


# Organic Linker Molecules for Metal Organic Frameworks (MOFs)



Oxygenated Organic Linkers

Nitrogenated Organic Linkers

Other Organic Linkers

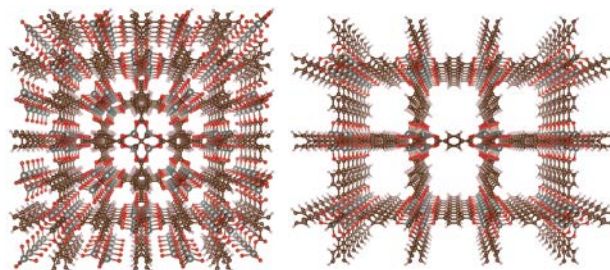
# Organic Linker Molecules for Metal Organic Frameworks (MOFs)

More than 20,000 examples of metal organic frameworks (MOFs) and porous coordination polymers (PCPs) have been reported to date. The unique structures of MOFs and PCPs have allowed for extensive and varied chemical combinations between metal ions and organic ligands.<sup>1,2</sup> MOFs and PCPs feature porous coordination networks with extensive surface area, exceeding that of activated carbon and zeolite. The nanometer sized pores are capable of absorbing small molecules, and are expected to be used in applications for gas storage and separation, sensors, and for catalysis.

Imidazole-based metal organic frameworks with a zeolitic function, the so-called ZIFs (Zeolitic Imidazolate Frameworks), have received great attention due to the thermodynamic stability, chemical stability, and particularly they are stable in water.<sup>3,4</sup>

The 'crystal sponge method', wherein MOFs and PCPs uptake small molecules, enables us to solve the X-ray structure of small molecules by taking advantage of the crystalline nature of MOF's and PCP's. A task otherwise impossible for small molecules whom do not easily crystallize. X-ray structure analyses of amorphous and gas organic molecules are also possible by the method.<sup>5,6</sup>

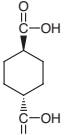
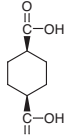
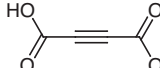
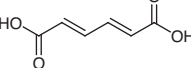
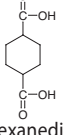
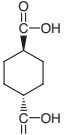
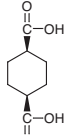
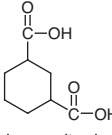
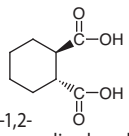
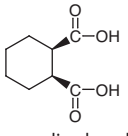
We are able to design various MOFs and PCPs by taking into account the metal coordination number and organic ligand structure, as well as identify a unique function for the given MOF or PCP by introducing additional functional groups on the organic ligand. TCI offers rich variety of organic ligands (organic linker) for the design various MOFs/PCPs.



## References

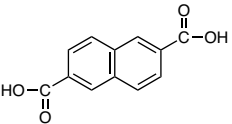
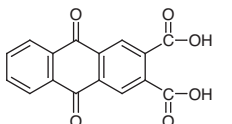
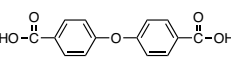
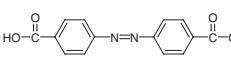
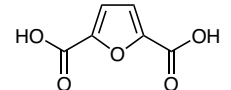
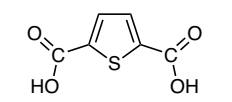
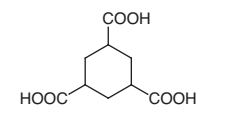
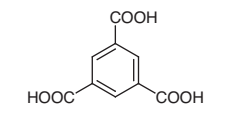
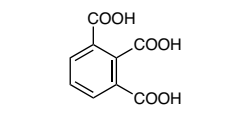
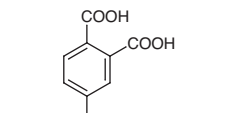
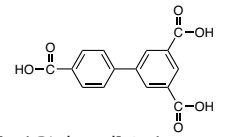
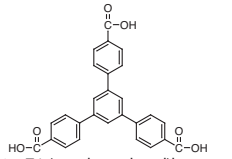
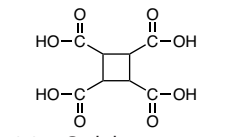
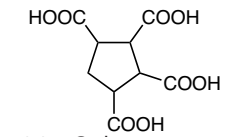
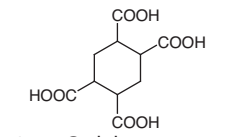
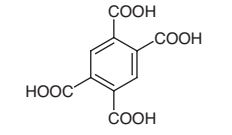
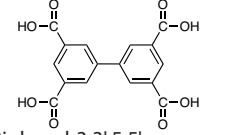
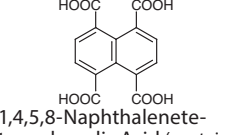
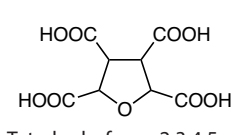
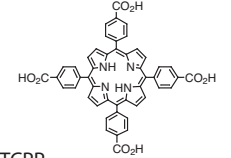
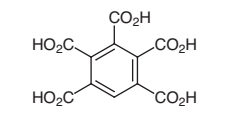
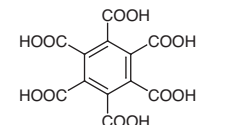
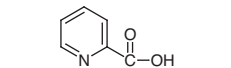
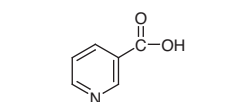
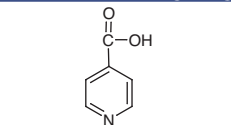
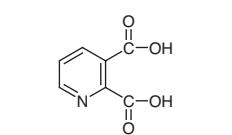
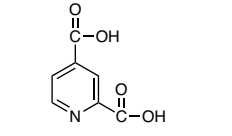
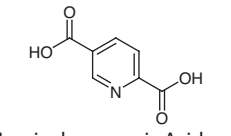
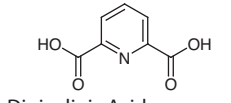
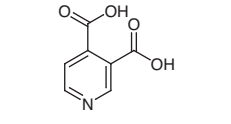
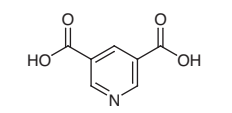
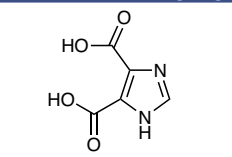
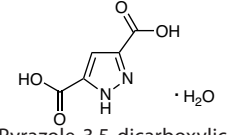
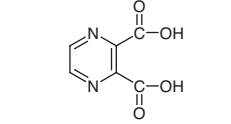
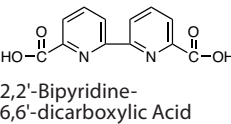
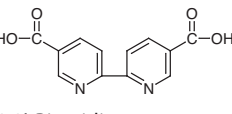
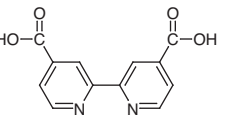
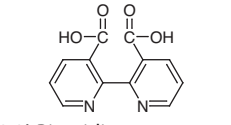
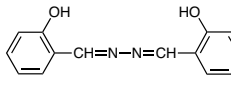
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## Oxygenated Organic Linkers






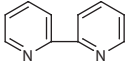
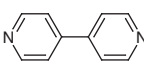
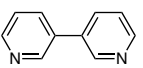
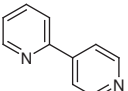
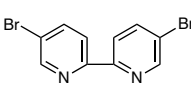
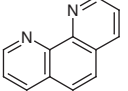
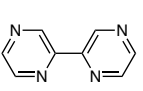
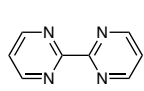
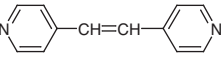
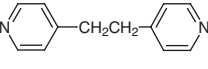
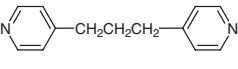
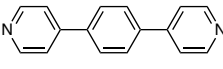
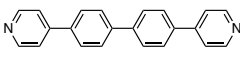
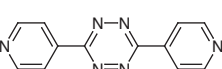
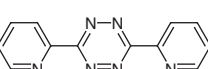
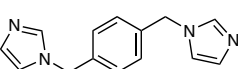
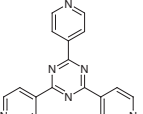
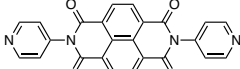
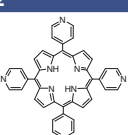
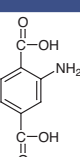
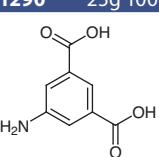
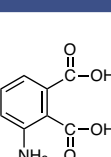
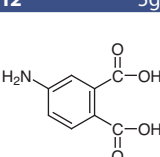
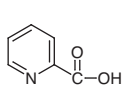
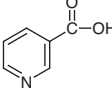
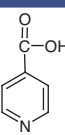
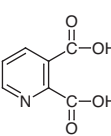
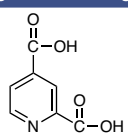
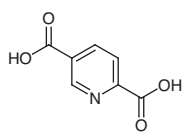
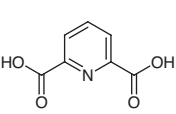
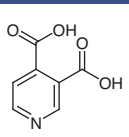
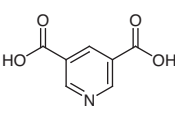
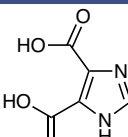
<p><b>C0475</b> 25g 100g 500g</p>  <p><i>trans</i>-1,4-Cyclohexanedicarboxylic Acid CAS RN: 619-82-9</p>	<p><b>C0789</b> 25g 100g</p>  <p><i>cis</i>-1,4-Cyclohexanedicarboxylic Acid CAS RN: 619-81-8</p>	<p><b>A0088</b> 5g 25g</p>  <p>Acetylenedicarboxylic Acid CAS RN: 142-45-0</p>	<p><b>M0473</b> 1g</p>  <p><i>trans,trans</i>-Muconic Acid CAS RN: 3588-17-8</p>	<p><b>C0788</b> 25g 500g</p>  <p>1,4-Cyclohexanedicarboxylic Acid (<i>cis</i>- and <i>trans</i>- mixture) CAS RN: 1076-97-7</p>
<p><b>C0475</b> 25g 100g 500g</p>  <p><i>trans</i>-1,4-Cyclohexanedicarboxylic Acid CAS RN: 619-82-9</p>	<p><b>C0789</b> 25g 100g</p>  <p><i>cis</i>-1,4-Cyclohexanedicarboxylic Acid CAS RN: 619-81-8</p>	<p><b>C2186</b> 5g 25g</p>  <p>1,3-Cyclohexanedicarboxylic Acid (<i>cis</i>- and <i>trans</i>- mixture) CAS RN: 3971-31-1</p>	<p><b>C1953</b> 1g 5g</p>  <p>(1<i>R</i>,2<i>R</i>)-1,2-Cyclohexanedicarboxylic Acid CAS RN: 46022-05-3</p>	<p><b>C0458</b> 25g 500g</p>  <p><i>cis</i>-1,2-Cyclohexanedicarboxylic Acid CAS RN: 610-09-3</p>

<b>C0474</b> 25g 500g  trans-1,2-Cyclohexanedicarboxylic Acid CAS RN: 2305-32-0	<b>N0753</b> 5g 25g  2,3-Norbornanedicarboxylic Acid CAS RN: 1724-08-9	<b>N1029</b> 5g 25g  5-Norbornene-2,3-dicarboxylic Acid CAS RN: 3813-52-3	<b>B5595</b> 1g  Bicyclo[2.2.2]octane-1,4-dicarboxylic Acid CAS RN: 711-02-4	<b>D4383</b> 1g  Decahydro-1,4-naphthalenedicarboxylic Acid (mixture of isomers) CAS RN: 879360-14-2
<b>A1358</b> 5g 25g  1,3-Dicarboxyadamantane CAS RN: 39269-10-8	<b>A1357</b> 5g  1,3-Adamantanedicarboxylic Acid CAS RN: 17768-28-4	<b>T0166</b> 25g 500g  Terephthalic Acid CAS RN: 100-21-0	<b>T0930</b> 1g 5g  Tetrafluoroterephthalic Acid CAS RN: 652-36-8	<b>D2208</b> 5g 25g  2,5-Dimethylterephthalic Acid CAS RN: 6051-66-7
<b>D1698</b> 1g 5g  2,5-Dichloroterephthalic Acid CAS RN: 13799-90-1	<b>B1321</b> 5g 25g  Bromoterephthalic Acid CAS RN: 586-35-6	<b>D3994</b> 5g 25g  2,5-Dibromoterephthalic Acid CAS RN: 13731-82-3	<b>H1385</b> 1g 5g  2-Hydroxyterephthalic Acid CAS RN: 636-94-2	<b>D3899</b> 5g 25g  2,5-Dihydroxyterephthalic Acid CAS RN: 610-92-4
<b>A1291</b> 25g  2-Aminoterephthalic Acid CAS RN: 10312-55-7	<b>N0272</b> 5g 25g  Nitroterephthalic Acid CAS RN: 610-29-7	<b>I0155</b> 25g 500g  Isophthalic Acid CAS RN: 121-91-5	<b>B4232</b> 1g 5g  5-Bromoisophthalic Acid CAS RN: 23351-91-9	<b>H0794</b> 25g 500g  5-Hydroxyisophthalic Acid CAS RN: 618-83-7
<b>M1835</b> 5g  5-Methoxyisophthalic Acid CAS RN: 46331-50-4	<b>A1290</b> 25g 100g 500g  5-Aminoisophthalic Acid Hydrate CAS RN: 99-31-0	<b>N0520</b> 25g 500g  5-Nitroisophthalic Acid CAS RN: 618-88-2	<b>T1374</b> 1g 5g  Tetrafluoroisophthalic Acid CAS RN: 1551-39-9	<b>P0287</b> 25g 500g  Phthalic Acid CAS RN: 88-99-3
<b>F0353</b> 5g  3-Fluorophthalic Acid CAS RN: 1583-67-1	<b>A1516</b> 1g 5g  3-Aminophthalic Acid CAS RN: 5434-20-8	<b>N0243</b> 25g 500g  3-Nitrophthalic Acid CAS RN: 603-11-2	<b>M0560</b> 25g 500g  4-Methylphthalic Acid CAS RN: 4316-23-8	<b>H0609</b> 5g  4-Hydroxyphthalic Acid CAS RN: 610-35-5
<b>M1432</b> 1g 5g  4-Methoxyphthalic Acid CAS RN: 1885-13-8	<b>A1512</b> 5g 25g  4-Aminophthalic Acid CAS RN: 5434-21-9	<b>N0244</b> 25g 500g  4-Nitrophthalic Acid CAS RN: 610-27-5	<b>B2257</b> 1g 5g 25g  4-Bromophthalic Acid CAS RN: 6968-28-1	<b>T0986</b> 5g 25g  Tetrafluorophthalic Acid CAS RN: 652-03-9
<b>T0070</b> 25g 500g  Tetrachlorophthalic Acid Hemihydrate CAS RN: 632-58-6	<b>B1191</b> 5g 25g  4,4'-Bibenzoic Acid CAS RN: 787-70-2	<b>D0864</b> 25g 100g  2,2'-Bibenzoic Acid CAS RN: 482-05-3	<b>N0526</b> 5g 25g  2,3-Naphthalenedicarboxylic Acid CAS RN: 2169-87-1	<b>N0606</b> 25g 100g  1,4-Naphthalenedicarboxylic Acid CAS RN: 605-70-9

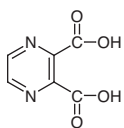
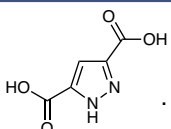
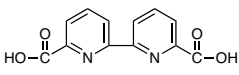
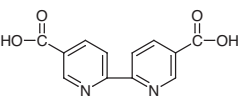
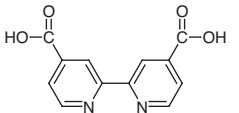
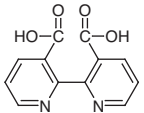
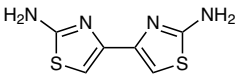
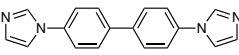
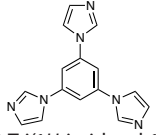
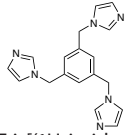
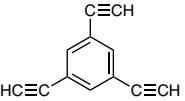
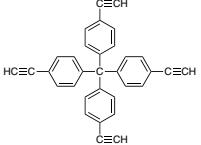
## Organic Linker Molecules for Metal Organic Frameworks (MOFs)

<p><b>N0377</b> 5g 25g 100g</p>  <p>2,6-Naphthalenedicarboxylic Acid CAS RN: 1141-38-4</p>	<p><b>A1681</b> 1g</p>  <p>Anthraquinone-2,3-dicarboxylic Acid CAS RN: 27485-15-0</p>	<p><b>D2115</b> 25g 100g</p>  <p>4,4'-Dicarboxydiphenyl Ether CAS RN: 2215-89-6</p>	<p><b>A1596</b> 1g 5g</p>  <p>4,4'-Azodibenzoic Acid CAS RN: 586-91-4</p>	<p><b>F0710</b> 5g 25g</p>  <p>2,5-Furandicarboxylic Acid CAS RN: 3238-40-2</p>
<p><b>T2347</b> 5g 25g</p>  <p>2,5-Thiophenedicarboxylic Acid CAS RN: 4282-31-9</p>	<p><b>C2029</b> 5g 25g</p>  <p>1,3,5-Cyclohexanetricarboxylic Acid (<i>cis</i>- and <i>trans</i>-mixture) CAS RN: 25357-95-3</p>	<p><b>B0043</b> 25g 100g 500g</p>  <p>1,3,5-Benzenetricarboxylic Acid CAS RN: 554-95-0</p>	<p><b>H1592</b> 5g 25g</p>  <p>Hemimellitic Acid CAS RN: 569-51-7</p>	<p><b>B0042</b> 25g 100g 500g</p>  <p>Trimellitic Acid CAS RN: 528-44-9</p>
<p><b>B5795</b> 1g</p>  <p>[1,1'-Biphenyl]-3,4',5'-tricarboxylic Acid CAS RN: 677010-20-7</p>	<p><b>T2647</b> 1g 5g</p>  <p>1,3,5-Tris(4-carboxyphenyl)benzene CAS RN: 50446-44-1</p>	<p><b>C2502</b> 1g</p>  <p>1,2,3,4-Cyclobutanetetracarboxylic Acid CAS RN: 53159-92-5</p>	<p><b>C0856</b> 5g 25g</p>  <p>1,2,3,4-Cyclopentanetetracarboxylic Acid CAS RN: 3724-52-5</p>	<p><b>C2198</b> 5g 25g</p>  <p>1,2,4,5-Cyclohexanetetracarboxylic Acid CAS RN: 15383-49-0</p>
<p><b>B0039</b> 25g 100g 500g</p>  <p>Pyromellitic Acid CAS RN: 89-05-4</p>	<p><b>B3792</b> 200mg</p>  <p>Biphenyl-3,3',5,5'-tetracarboxylic Acid CAS RN: 4371-28-2</p>	<p><b>N0770</b> 25g 250g</p>  <p>1,4,5,8-Naphthalenetetracarboxylic Acid (contains Monoanhydride) CAS RN: 128-97-2</p>	<p><b>T0975</b> 25g 500g</p>  <p>Tetrahydrofuran-2,3,4,5-tetracarboxylic Acid CAS RN: 26106-63-8</p>	<p><b>A5015</b> 100mg 1g</p>  <p>TCPP CAS RN: 14609-54-2</p>
<p><b>B0952</b> 5g 25g</p>  <p>Benzenepentacarboxylic Acid CAS RN: 1585-40-6</p>	<p><b>B0246</b> 5g 25g</p>  <p>Mellitic Acid CAS RN: 517-60-2</p>	<p><b>P0421</b> 25g 100g 500g</p>  <p>Picolinic Acid CAS RN: 98-98-6</p>	<p><b>N0082</b> 25g 500g</p>  <p>Nicotinic Acid CAS RN: 59-67-6</p>	<p><b>I0207</b> 25g 500g</p>  <p>Isonicotinic Acid CAS RN: 55-22-1</p>
<p><b>P0550</b> 25g 500g</p>  <p>Quinolinic Acid CAS RN: 89-00-9</p>	<p><b>P2416</b> 5g 25g</p>  <p>2,4-Lutidinic Acid CAS RN: 499-80-9</p>	<p><b>P0552</b> 25g</p>  <p>Isocinchomeronic Acid CAS RN: 100-26-5</p>	<p><b>P0554</b> 25g 100g 500g</p>  <p>Dipicolinic Acid CAS RN: 499-83-2</p>	<p><b>P0682</b> 5g 25g</p>  <p>Cinchomeronic Acid CAS RN: 490-11-9</p>
<p><b>P0551</b> 5g 25g</p>  <p>3,5-Pyridinedicarboxylic Acid CAS RN: 499-81-0</p>	<p><b>I0003</b> 5g 25g</p>  <p>1H-Imidazole-4,5-dicarboxylic Acid CAS RN: 570-22-9</p>	<p><b>P1048</b> 5g 25g</p>  <p>Pyrazole-3,5-dicarboxylic Acid Monohydrate CAS RN: 3112-31-0</p>	<p><b>P0545</b> 25g</p>  <p>2,3-Pyrazinedicarboxylic Acid CAS RN: 89-01-0</p>	<p><b>B3533</b> 1g 5g</p>  <p>2,2'-Bipyridine-6,6'-dicarboxylic Acid CAS RN: 4479-74-7</p>
<p><b>B3502</b> 1g 5g</p>  <p>2,2'-Bipyridine-5,5'-dicarboxylic Acid CAS RN: 1802-30-8</p>	<p><b>B1876</b> 100mg 1g</p>  <p>2,2'-Biisonicotinic Acid CAS RN: 6813-38-3</p>	<p><b>B3622</b> 1g</p>  <p>2,2'-Bipyridine-3,3'-dicarboxylic Acid CAS RN: 4433-01-6</p>	<p><b>S0850</b> 5g 25g</p>  <p>Salicylaldehyde Azine CAS RN: 959-36-4</p>	

## Nitrogenated Organic Linkers

<p><b>M0345</b> 25g 100g 500g</p>  <p>2-Methylimidazole CAS RN: 693-98-1</p>	<p><b>P0544</b> 25g 100g 500g</p>  <p>Pyrazine CAS RN: 290-37-9</p>	<p><b>D0134</b> 25g 100g 500g</p>  <p>DABCO CAS RN: 280-57-9</p>	<p><b>H0093</b> 25g 500g</p>  <p>HMTA CAS RN: 100-97-0</p>	<p><b>I0001</b> 25g 100g 500g</p>  <p>Imidazole CAS RN: 288-32-4</p>
<p><b>B0468</b> 25g 100g 500g</p>  <p>2,2'-Bipyridyl CAS RN: 366-18-7</p>	<p><b>B0469</b> 25g 100g</p>  <p>4,4'-Bipyridyl CAS RN: 553-26-4</p>	<p><b>B3984</b> 1g 5g</p>  <p>3,3'-Bipyridyl CAS RN: 581-46-4</p>		
<p><b>B0863</b> 1g 5g</p>  <p>2,4'-Bipyridyl CAS RN: 581-47-5</p>	<p><b>D4358</b> 1g</p>  <p>5,5'-Dibromo-2,2'-bipyridyl CAS RN: 15862-18-7</p>	<p><b>P0221</b> 1g 25g</p>  <p>1,10-Phenanthroline Monohydrate CAS RN: 5144-89-8</p>	<p><b>B4297</b> 100mg 500mg</p>  <p>2,2'-Bipyrazine CAS RN: 10199-00-5</p>	<p><b>B2496</b> 200mg 1g</p>  <p>2,2'-Bipyrimidyl CAS RN: 34671-83-5</p>
<p><b>D0276</b> 10g 25g</p>  <p>1,2-Di(4-pyridyl)ethylene CAS RN: 13362-78-2</p>	<p><b>D3752</b> 1g 5g</p>  <p>1,2-Di(4-pyridyl)ethane CAS RN: 4916-57-8</p>	<p><b>D0938</b> 25g 100g 500g</p>  <p>1,3-Di(4-pyridyl)propane CAS RN: 17252-51-6</p>	<p><b>P1550</b> 200mg 1g</p>  <p>1,4-Di(4-pyridyl)benzene CAS RN: 113682-56-7</p>	<p><b>D4203</b> 200mg 1g</p>  <p>4,4'-Di(4-pyridyl)biphenyl CAS RN: 319430-87-0</p>
<p><b>D3211</b> 1g 5g</p>  <p>3,6-Di(4-pyridyl)-1,2,4,5-tetrazine CAS RN: 57654-36-1</p>	<p><b>D3640</b> 1g 5g</p>  <p>3,6-Di(2-pyridyl)-1,2,4,5-tetrazine CAS RN: 1671-87-0</p>	<p><b>B4023</b> 1g 5g</p>  <p>1,4-Bis[(1H-imidazol-1-yl)-methyl]benzene CAS RN: 56643-83-5</p>	<p><b>T1937</b> 1g 5g</p>  <p>2,4,6-Tri(4-pyridyl)-1,3,5-triazine (purified by sublimation) CAS RN: 42333-78-8</p>	<p><b>D4152</b> 1g 5g</p>  <p>N,N'-Di(4-pyridyl)-1,4,5,8-naphthalenetetracarboxydiimide CAS RN: 34151-49-0</p>
<p><b>T2222</b> 1g 5g</p>  <p>5,10,15,20-Tetra(4-pyridyl)-porphyrin CAS RN: 16834-13-2</p>	<p><b>A1291</b> 25g</p>  <p>2-Aminoterephthalic Acid CAS RN: 10312-55-7</p>	<p><b>A1290</b> 25g 100g 500g</p>  <p>5-Aminoisophthalic Acid Hydrate CAS RN: 99-31-0</p>	<p><b>A1516</b> 1g 5g</p>  <p>3-Aminophthalic Acid CAS RN: 5434-20-8</p>	<p><b>A1512</b> 5g 25g</p>  <p>4-Aminophthalic Acid CAS RN: 5434-21-9</p>
<p><b>P0421</b> 25g 100g 500g</p>  <p>Picolinic Acid CAS RN: 98-98-6</p>	<p><b>N0082</b> 25g 500g</p>  <p>Nicotinic Acid CAS RN: 59-67-6</p>	<p><b>I0207</b> 25g 500g</p>  <p>Isonicotinic Acid CAS RN: 55-22-1</p>	<p><b>P0550</b> 25g 500g</p>  <p>Quinolinic Acid CAS RN: 89-00-9</p>	<p><b>P2416</b> 5g 25g</p>  <p>2,4-Lutidinic Acid CAS RN: 499-80-9</p>
<p><b>P0552</b> 25g</p>  <p>Isocinchomeronic Acid CAS RN: 100-26-5</p>	<p><b>P0554</b> 25g 100g 500g</p>  <p>Dipicolinic Acid CAS RN: 499-83-2</p>	<p><b>P0682</b> 5g 25g</p>  <p>Cinchomeronic Acid CAS RN: 490-11-9</p>	<p><b>P0551</b> 5g 25g</p>  <p>3,5-Pyridinedicarboxylic Acid CAS RN: 499-81-0</p>	<p><b>I0003</b> 5g 25g</p>  <p>1H-Imidazole-4,5-dicarboxylic Acid CAS RN: 570-22-9</p>

## Organic Linker Molecules for Metal Organic Frameworks (MOFs)

<p><b>P0545</b> 25g</p>  <p>2,3-Pyrazinedicarboxylic Acid CAS RN: 89-01-0</p>	<p><b>P1048</b> 5g 25g</p>  <p>Pyrazole-3,5-dicarboxylic Acid Monohydrate CAS RN: 3112-31-0</p>	<p><b>B3533</b> 1g 5g</p>  <p>2,2'-Bipyridine-6,6'-dicarboxylic Acid CAS RN: 4479-74-7</p>	<p><b>B3502</b> 1g 5g</p>  <p>2,2'-Bipyridine-5,5'-dicarboxylic Acid CAS RN: 1802-30-8</p>	<p><b>B1876</b> 100mg 1g</p>  <p>2,2'-Biisonicotinic Acid CAS RN: 6813-38-3</p>
<p><b>B3622</b> 1g</p>  <p>2,2'-Bipyridine-3,3'-dicarboxylic Acid CAS RN: 4433-01-6</p>	<p><b>D4273</b> 200mg 1g</p>  <p>2,2'-Diamino-4,4'-bithiazole CAS RN: 58139-59-6</p>	<p><b>D5777</b> 1g 5g</p>  <p>4,4'-Di(1<i>H</i>-imidazol-1-yl)-1,1'-biphenyl CAS RN: 855766-92-6</p>	<p><b>T3903</b> 1g</p>  <p>1,3,5-Tri(1<i>H</i>-imidazol-1-yl)benzene CAS RN: 528543-96-6</p>	<p><b>T3479</b> 1g 5g</p>  <p>1,3,5-Tris((1<i>H</i>-imidazol-1-yl)methyl)benzene CAS RN: 147951-02-8</p>
<p><b>Other Organic Linkers</b></p>		<p><b>T2760</b> 1g 5g</p>  <p>1,3,5-Triethynylbenzene CAS RN: 7567-63-7</p>	<p><b>T3151</b> 100mg 1g</p>  <p>Tetrakis(4-ethynylphenyl)methane CAS RN: 177991-01-4</p>	

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