

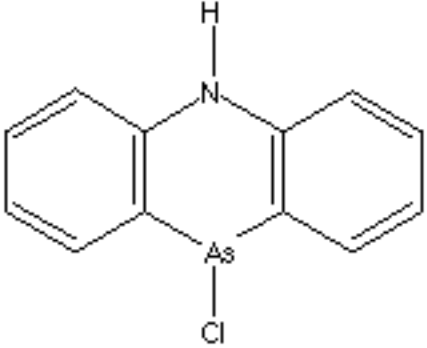
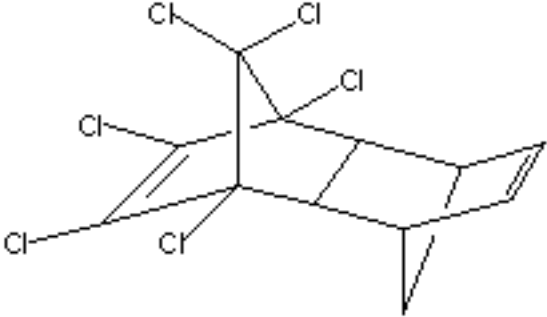
# NAMED ORGANIC REAGENTS (PART 1)

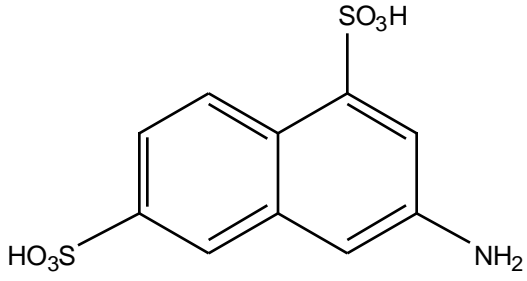
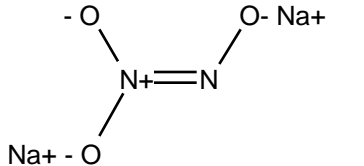
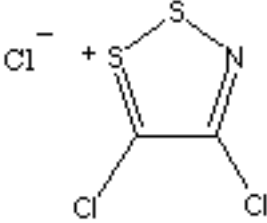
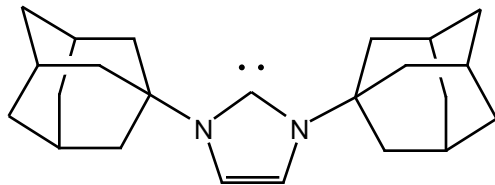
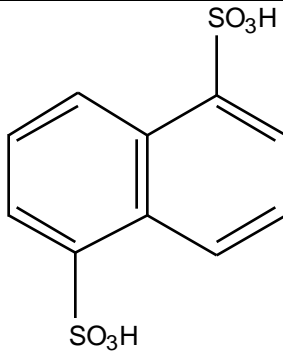
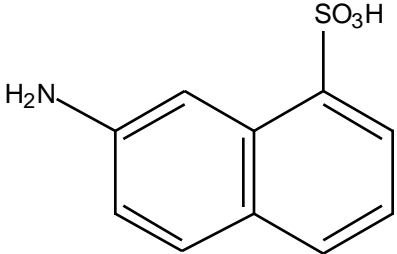
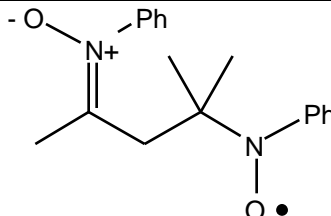
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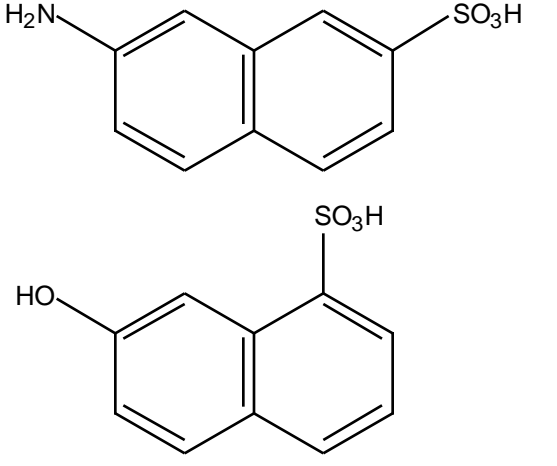
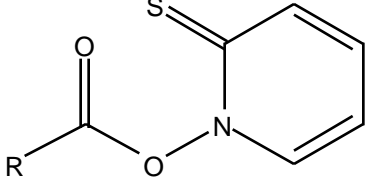
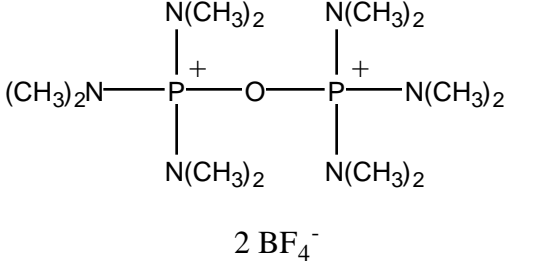
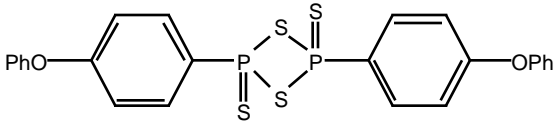
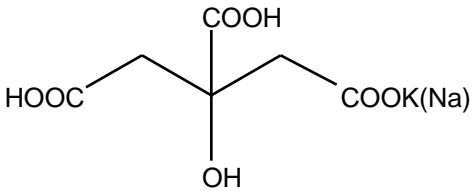
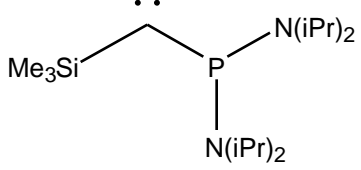
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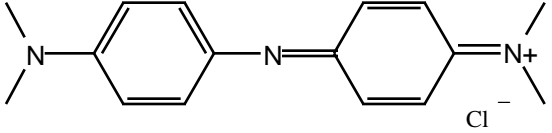
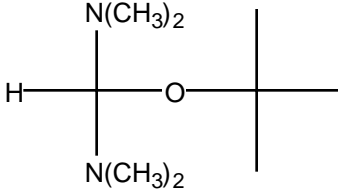
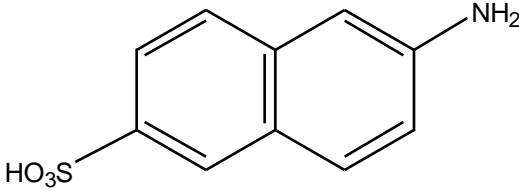
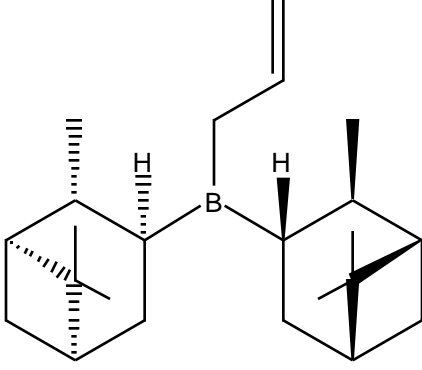
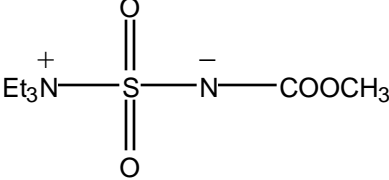
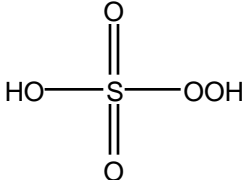
For suggestions, corrections, additional information, and comments please send e-mails to [jandraos@yorku.ca](mailto:jandraos@yorku.ca)

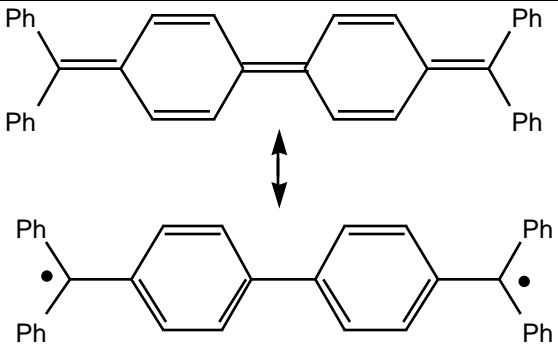
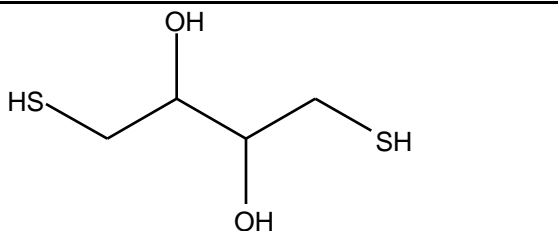
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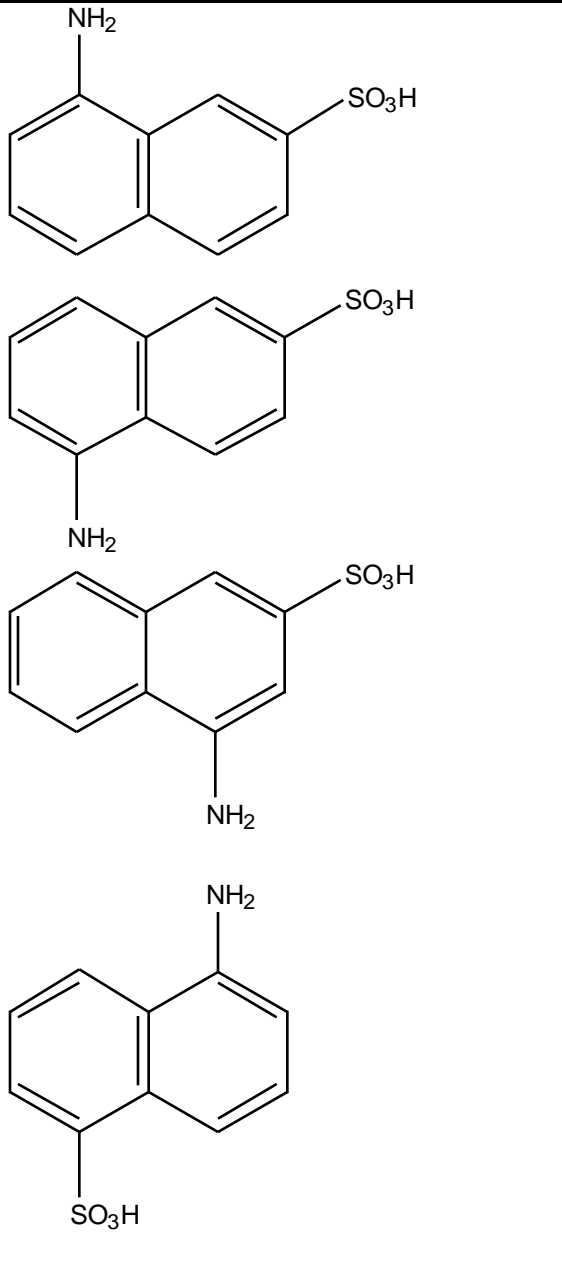
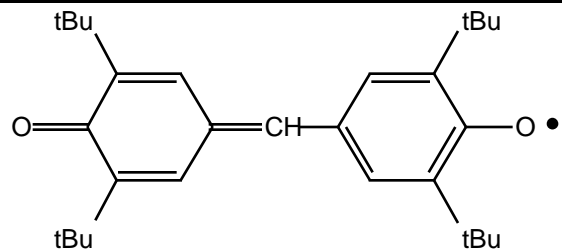
Reagent Name	CAS No.	Structure
Adams' catalyst (1922) (platinum oxide)	12137-21-2	Pt <sub>2</sub> O
Adam's reagent (zinc cyanide)	557-21-1	Zn(CN) <sub>2</sub>
Adamite (zinc arsenate)	13464-44-3	Zn <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub>
Adamsite (phenarsazine chloride, 10-chloro-5,10-dihydrophenarsazine)	578-94-9	
Adkins catalyst (1950) (chromium-copper oxide, copper (I) chromite)	7440-47-3 1317-38-0	Cr / CuO, Cu <sub>2</sub> Cr <sub>2</sub> O <sub>4</sub>
Aldrin	124-96-9 309-00-2 465-73-6	

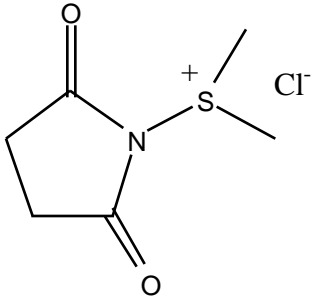
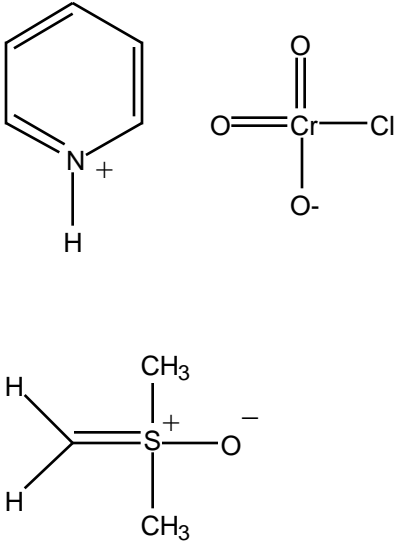
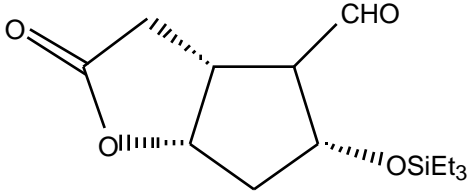
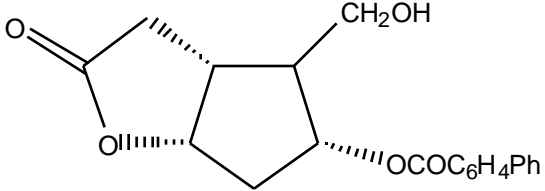
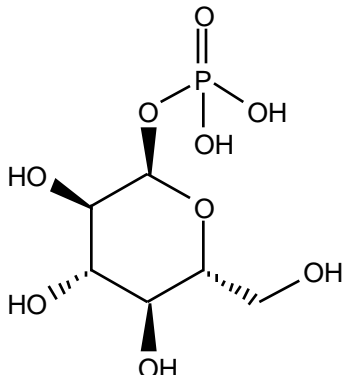
Andresen's acid (3-amino-1,6-naphthalenedisulfonic acid)	78887-55-7	
Angeli's salt ( <b>1896</b> ) (hyponitric acid, disodium salt N-nitrohydroxylamine, disodium salt)	13826-64-7	
Appel's reagent ( <b>1985</b> ) (4,5-dichloro-1,2,3-dithiazolium chloride)	75318-43-3	
Arduengo carbene ( <b>1991</b> ) (1,3-dihydro-1,3-bis(tricyclo[3.3.1.1.3,7]dec-1-yl)2H-imidazol-2-ylidene; 1,3-di-1-adamantylimidazol-2-ylidene)	131042-77-8	
Armstrong and Wynne's acid (1,5-naphthalenedisulfonic acid)	81-04-9	
Badische (Baden) acid (7-amino-1-naphthalenesulfonic acid)	86-60-2	
Banfield-Kenyon radical ( <b>1926</b> ) (1,1-dimethyl-3-(oxidophenylimino)butylphenylnitroxide)	3315-40-0	

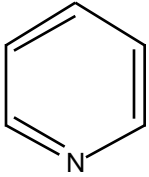
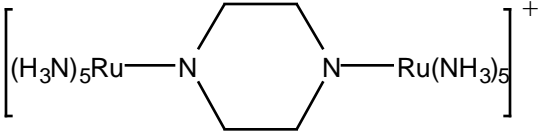
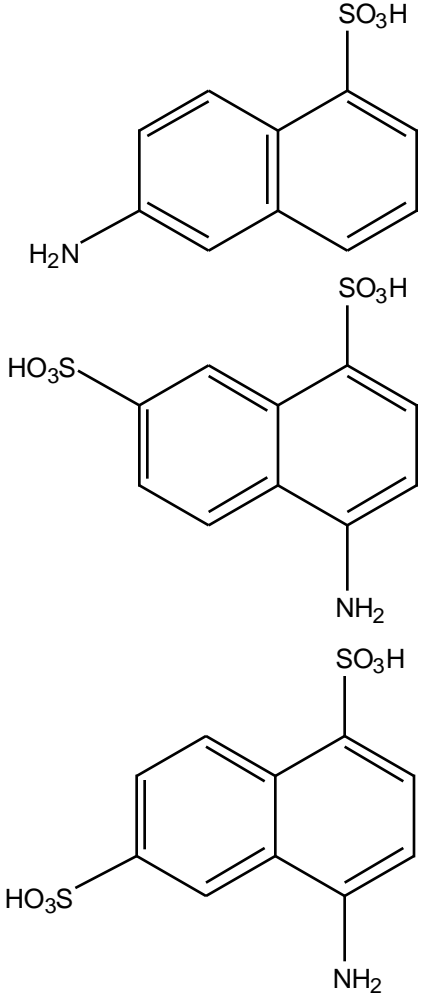
<p>Bayer's acids 7-amino-2-naphthalenesulfonic acid or Cassella's acid</p> <p>7-hydroxy-1-naphthalenesulfonic acid</p>	<p>494-44-0</p> <p>132-57-0</p>	
<p>Barton ester (<b>1983</b>) (R = CH<sub>3</sub>, 1-acetoxy-1H-pyridine-2-thione)</p>	<p>15922-79-9</p>	
<p>Bates reagent (<b>1975</b>) (μ-oxo-bis[tris-(dimethylamino)phosphonium] bis(tetrafluoroborate))</p>		
<p>Belleau's reagent (<b>1983</b>) 2,4-bis(4-phenoxyphenyl)-1,3-dithia-2,4-diphosphetane-2,4-disulfide</p>	<p>88816-02-8</p>	
<p>Benedict's solution (<b>1909</b>) (aqueous solution of potassium thiocyanate, potassium ferrocyanide, potassium (sodium) citrate, copper sulfate, sodium carbonate)</p>	<p>333-20-0</p> <p>14459-95-1</p> <p>7758-98-7</p> <p>497-19-8</p> <p>(Na salt)</p> <p>68-04-2</p> <p>(K salt)</p> <p>6100-05-6</p>	<p>KCNS, K<sub>4</sub>Fe(CN)<sub>6</sub> 3H<sub>2</sub>O, CuSO<sub>4</sub> 5H<sub>2</sub>O, Na<sub>2</sub>CO<sub>3</sub>,</p> 
<p>Bertrand carbene (<b>1985</b>) (bis[bis(1-methylethyl)amino]phosphino)(trimethylsilyl)methylene)</p>	<p>122048-59-3</p>	

<b>Bindschedler's green (1883)</b> (N-[4-[[4-(dimethylamino)phenyl]imino]-2,5-cyclohexadien-1-ylidene]-N-methylmethanaminium chloride)	4486-05-9	
<b>Bredereck's reagent (1968)</b> ( <i>t</i> -butoxy bis(dimethylamino)methane)	5815-08-7	
<b>Brønner's acid (1882)</b> (2-amino-6-naphthalenesulfonic acid)	93-00-5	
<b>Brønsted catalyst, Brønsted-acid (1923)</b>		$\text{HX} \rightleftharpoons \text{H}^+ + \text{X}^-$ proton donor
<b>Brown's reagent (1989)</b> (allyl bis-(2,6,6-trimethylbicyclo[3.3.1]hept-3-yl)-borane)	85116-38-7 106356-53-0	
<b>Burgess reagent (1968)</b> (methyl N-(triethylammoniumsulfonyl)carbamate)	29684-56-8	
<b>Caro's acid (1898)</b> (persulfuric acid)		

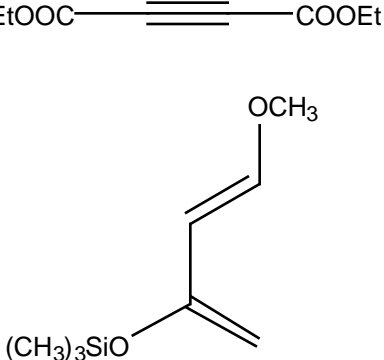
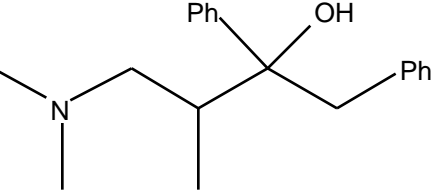
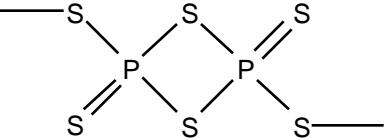

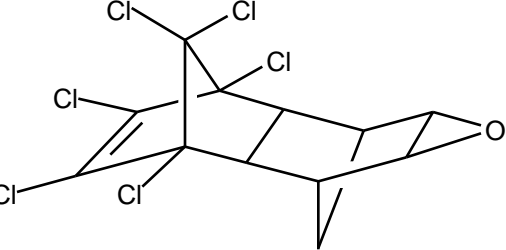
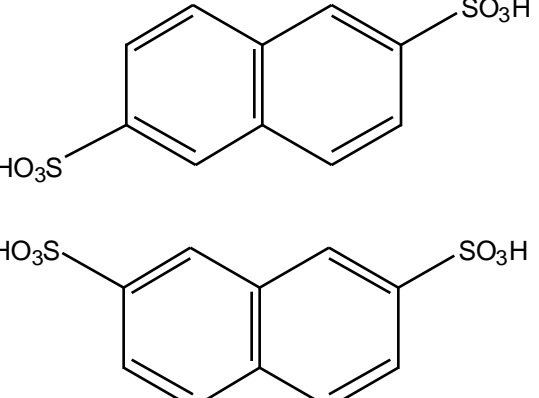
<p>Chichibabin's hydrocarbon (biradical) <b>(1907)</b> (quinoid: 1,1'-[[4-[4-(diphenylmethylene)-2,5-cyclohexadien-1-ylidene]-2,5-cyclohexadien-1-ylidene]methylene]bisbenzene; biradical: [1,1'-biphenyl]-4,4'-diylbis[diphenylmethyl])</p>	<p>3624-94-0 (quinoid) 6418-52-6 (biradical)</p>	 <p>The image shows two chemical structures of Chichibabin's hydrocarbon. The top structure is the quinoid form, consisting of two benzene rings connected by a double bond. Each benzene ring has a double bond to a carbon atom that is also bonded to two phenyl (Ph) groups. The bottom structure is the biradical form, consisting of two benzene rings connected by a single bond. Each benzene ring has a single bond to a carbon atom that is also bonded to two phenyl (Ph) groups and has a radical dot (•) on it. A double-headed vertical arrow between the two structures indicates resonance.</p>
<p>Claisen's alkali <b>(1919)</b> (potassium hydroxide-water-methanol)</p>	<p>1310-58-3 7713-18-5 67-56-1</p>	<p>KOH / H<sub>2</sub>O / CH<sub>3</sub>OH</p>
<p>Cleland's reagent <b>(1968)</b> DL-dithiothreitol</p>	<p>27565-41-9</p>	 <p>The image shows the chemical structure of DL-dithiothreitol, a four-carbon chain with hydroxyl (OH) groups on the second and third carbons and thiol (SH) groups on the first and fourth carbons.</p>

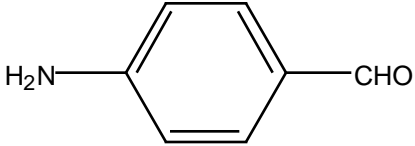
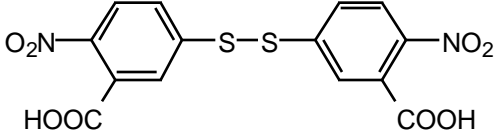
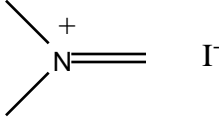
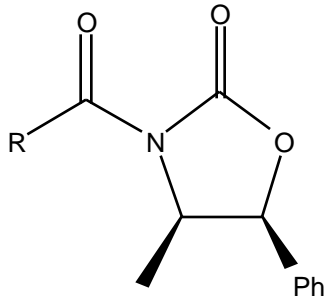
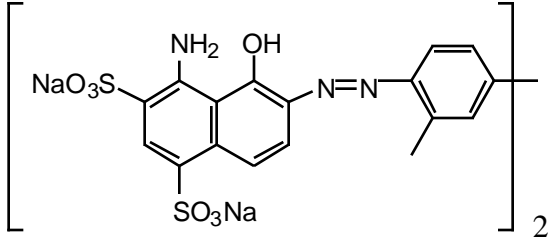
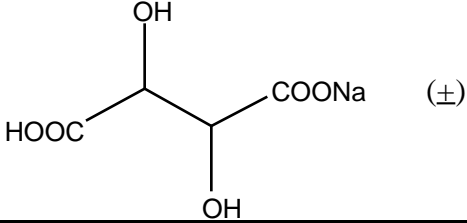
<p>Cleve's acids</p> <p>8-amino-1-naphthalenesulfonic acid (Cleve's <math>\delta</math>-acid) (<b>1878/1888</b>)</p> <p>5-amino-2-naphthalenesulfonic acid (Cleve's <math>\beta</math>-acid, Erdmann <math>\mu</math>-acid) (<b>1887</b>)</p> <p>4-amino-2-naphthalenesulfonic acid (Cleve's <math>\gamma</math>-acid) (<b>1886</b>)</p> <p>5-amino-1-naphthalenesulfonic acid (Cleve's <math>\alpha</math>-acid, Laurent's acid) (<b>1875</b>)</p>	<p>119-28-8</p> <p>119-79-9</p> <p>134-54-3</p> <p>84-89-9</p>	
<p>Collin's reagent (<b>1968</b>) (chromium trioxide bispyridine complex)</p>		<p><math>(C_5H_5N)_2 CrO_3</math></p>
<p>Collman's reagent (<b>1972</b>) (disodium tetracarbonylferrate)</p>	<p>59733-73-2</p>	<p><math>Na_2Fe(CO)_4</math></p>
<p>Coppinger's radical (<b>1957</b>) (galvinoxyl)</p>	<p>2370-18-5</p>	

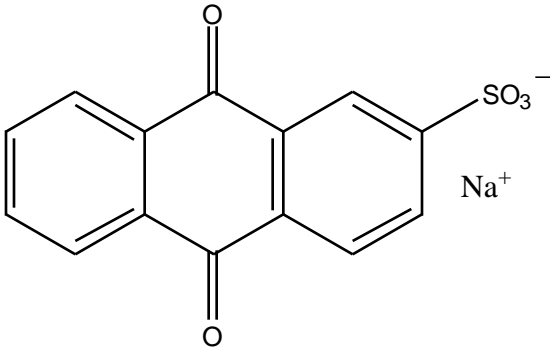
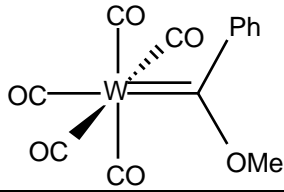
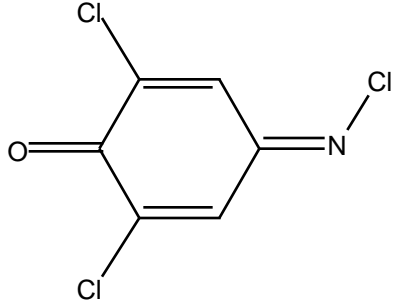
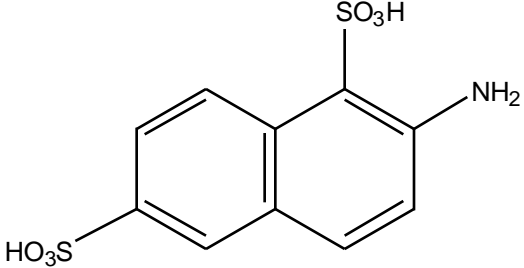
<p>Corey-Kim reagent (<b>1972</b>) (N-chlorosuccinimide-dimethyl sulfide)</p>	54884-50-3	
<p>Corey's reagent pyridinium chlorochromate (PCC), or dimethylsulfoxonium methylide (dimethyloxosulfonium methylide)</p>	26299-14-9  5367-24-8 70775-39-2	
<p>Corey aldehyde (hexahydro-4-carboxaldehyde-5-(4-triethylsiloxy)cyclopenta[b]furan-2-one)</p>	122437-68-7 128948-10-7	
<p>Corey lactone (hexahydro-4-hydroxymethyl-5-(4-phenylbenzoyloxy)cyclopenta[b]furan-2-one)</p>	38754-71-1 54382-73-9 31752-99-5	
<p>Cori ester (<b>1937</b>) (<math>\alpha</math>-glucose-1-phosphate)</p>	59-56-3	

Cornforth reagent ( <b>1962</b> ) (chromium trioxide/ pyridine/water)	110-86-1 1333-82-0	 $\text{CrO}_3 \quad \text{H}_2\text{O}$
Crabtree's catalyst ( <b>1977</b> ) ((1,5-cyclooctadiene)bis(methyldiphenylphosphine)iridium(I) hexafluorophosphate) or ((1,5-cyclooctadiene)tricyclohexylphosphine pyridinioiridium(I) hexafluorophosphate)	1333-74-0	$\text{Ir}[(\text{COD})(\text{P}(\text{CH}_3)\text{Ph}_2)_2]^+ \text{PF}_6^- / \text{H}_2$  $\text{Ir}[(\text{COD})(\text{PCy}_3)(\text{pyr})]^+ \text{PF}_6^- / \text{H}_2$
Creutz-Taube complex or ion ( <b>1969</b> ) (decaammine- $\mu$ -(pyrazine- $\text{N}^1:\text{N}^4$ )diruthenium(5+) or $\mu$ -pyrazine-bis[pentaammineruthenium(III,II)]	35599-57-6	
Dahl acids  6-amino-1-naphthalenesulfonic acid  4-amino-1,7-naphthalenedisulfonic acid or Dahl's acid II  4-amino-1,6-naphthalenedisulfonic acid or Dahl's acid III	81-05-0  85-74-5  85-75-6	

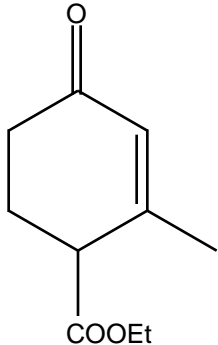
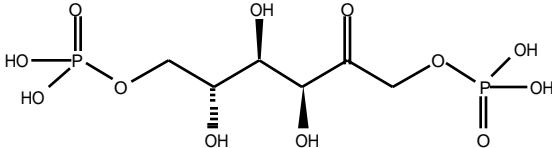
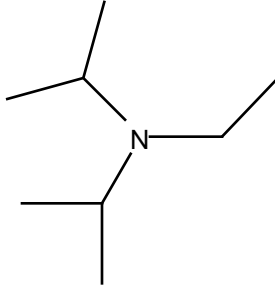
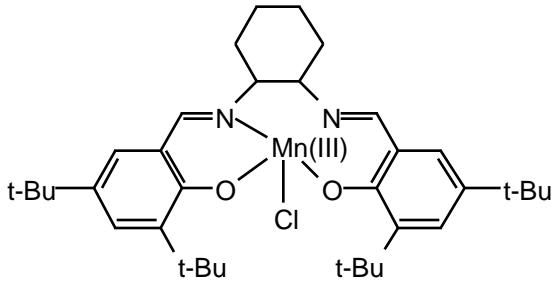
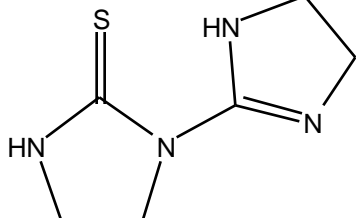


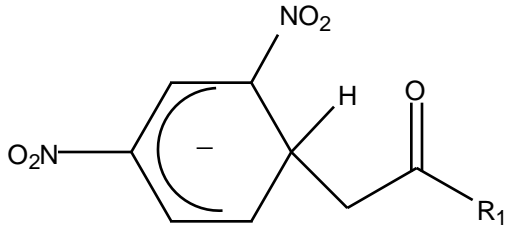
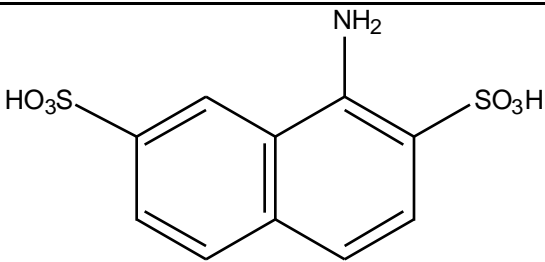
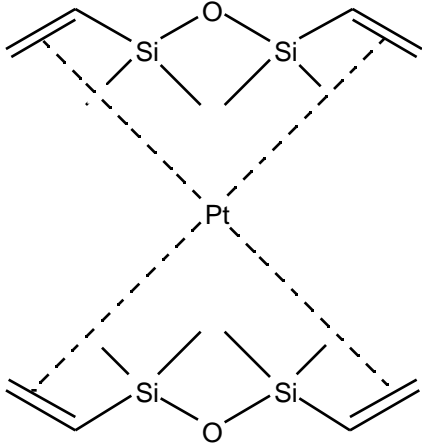
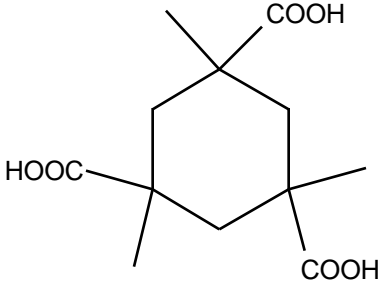
Danishefsky reagent ( <b>1974</b> ) (dicarboxyethylacetylene), Danishefsky's diene ( <i>trans</i> -1-methoxy-3-trimethylsilyloxy-1,3-butadiene)	762-21-0  103559-89-3 103559-90-6	
Darvon alcohol (4-dimethylamino-3-methyl-1,2-diphenyl-2-butanol)	38345-66-3	
Davy reagent methyl ( <b>1982</b> ) (2,4-bis(methylthio)-1,3-dithia-2,4-diphosphetane-2,4-disulfide)	82737-61-9	
Dewar benzene ( <b>1867</b> ) (bicyclo[2.2.0]-hexa-2,5-diene)	5649-95-6 66050-60-0 66050-61-1	
Dieldrin	60-57-1 72-20-8 128-10-9 56816-04-7	
Eaton reagent ( <b>1973</b> ) (phosphorus pentoxide in methanesulfonic acid solution)	39394-84-8	$P_2O_5$ MeSO <sub>3</sub> H (7.7 wt%)
Eau-de-Javel ( <b>1777</b> )	7681-52-9	$NaOCl$
Ebert and Merz acids ( <b>1876</b> ) 2,6-naphthalenedisulfonic acid  2,7-naphthalenedisulfonic acid	581-75-9  92-41-1	

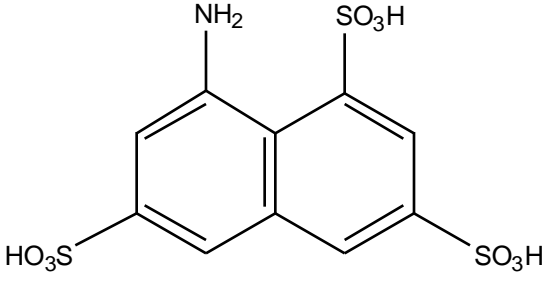
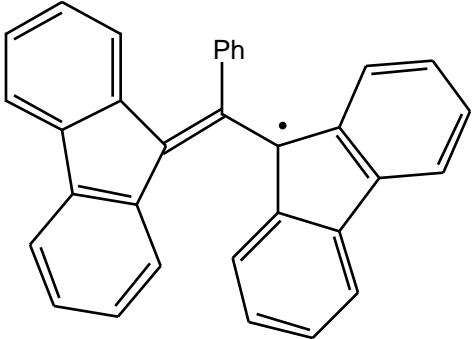
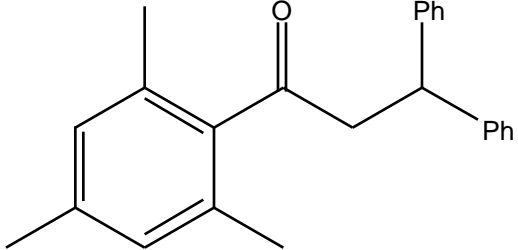
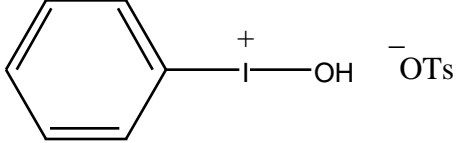
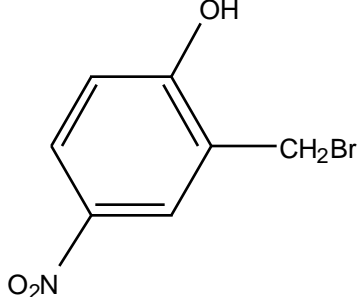
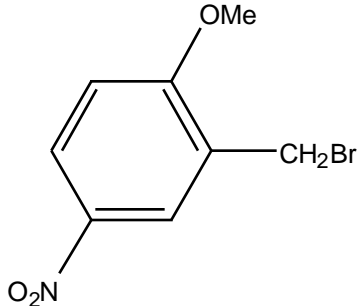
Edman's reagent ( <b>1950</b> ) (phenylisothiocyanate)	103-72-0	$\text{Ph}-\text{N}=\text{C}=\text{S}$
Ehrlich's reagent (1-amino-4-benzaldehyde)	100-10-7	
Ellman's reagent ( <b>1959</b> ) (bis(4-nitro-5-carboxyl-phenyl)disulfide)	69-78-3	
Eschenmoser's salt ( <b>1971</b> ) (dimethyl(methylene) ammonium iodide)	33797-51-2	
Evans auxiliary ( <b>1981</b> ) (oxazolidones)		
Evans blue ( <b>1914</b> ) (6,6'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)]bis[4-amino-5-hydroxy-1,3-naphthalenedisulfonic acid] tetrasodium salt	314-13-6	
Fehling solution ( <b>1849</b> ) (aqueous solution of copper sulfate, sodium hydroxide, and sodium tartrate)	7758-98-7 1310-73-2 868-18-8	$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ $\text{NaOH}$ 
Fenton reagent ( <b>1893</b> ) (hydrogen peroxide-iron salts)	7722-84-1	$\text{H}_2\text{O}_2 \text{ Fe}^{+2}$
Fetizon's reagent ( <b>1968</b> ) (silver carbonate-celite)	534-16-7	$\text{Ag}_2\text{CO}_3$ / celite

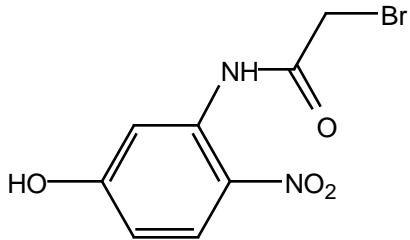
Fieser's reagent (chromium trioxide/acetic acid), Fieser's solution ( <b>1924</b> ) (potassium hydroxide-water-sodium anthraquinone $\beta$ -sulfonate-sodium hydrosulfite)	1333-82-0 64-19-7  1310-58-3 7713-18-5 7775-14-6  131-08-8	CrO <sub>3</sub> , CH <sub>3</sub> COOH  KOH, H <sub>2</sub> O, Na <sub>2</sub> S <sub>2</sub> O <sub>4</sub> ,  
Fischer carbene ( <b>1964</b> )	37823-96-4 (M = W) 27436-93-7 (M = Cr) 38797-47-6 (M = Mo)	$(L_n)M=C(R_1)R_2 \longleftrightarrow (L_n)M-C(R_1)R_2 \text{ (with lone pair and } \uparrow\downarrow \text{)}$ 
Gibbs reagent ( <b>1927</b> ) 2,6-dichloroquinonechlorimide	101-38-2	
Karl Fischer reagent ( <b>1935</b> ) (iodine-sulfur dioxide - water)	7553-56-2 7446-09-5 7713-18-5	I <sub>2</sub> / SO <sub>2</sub> / H <sub>2</sub> O
Forsling's acid ( <b>1888</b> ) (2-amino-1,6-naphthalenedisulfonic acid)	6838-02-4	

Frémy's salt ( <b>1845</b> ) (potassium nitrosodisulfonate)	14293-70-0	$\begin{array}{c} \text{K}^+ \quad \text{O}_3\text{S}^- \\ \quad \quad \quad \diagdown \\ \quad \quad \quad \text{N} - \text{O}^\bullet \\ \quad \quad \quad \diagup \\ \text{K}^+ \quad \text{O}_3\text{S}^- \end{array}$
Freund's acid ( <b>1895</b> )	6251-07-6	
buckminsterfullerene, fullerenes ( <b>1985</b> )	99685-96-8	C <sub>60</sub>
Gilman reagents ( <b>1936</b> )		RCu, R <sub>2</sub> CuLi
Girard reagent D, reagent P, Girard reagent T ( <b>1943</b> )	539-64-0	$\begin{array}{c} \text{O} \\ \parallel \\ \text{N}(\text{CH}_3)_2 - \text{CH}_2 - \text{C} - \text{NH}_2 \\ \text{HCl} \end{array}$
	1126-58-5	
	123-46-6	
Glauber's salt ( <b>1658</b> ) (sodium sulfate)	7757-82-6	Na <sub>2</sub> SO <sub>4</sub>
Gmelin's salt ( <b>1822</b> ) (potassium ferricyanide)	13746-66-2	K <sub>3</sub> Fe(CN) <sub>6</sub>
Gold's reagent ( <b>1960</b> ) (3-(dimethylamino)-2-azaprop-2-en-1-ylidene dimethylammonium chloride)	20353-93-9	
Gomberg radical ( <b>1900</b> ) (triphenylmethyl radical)	2216-49-1	Ph <sub>3</sub> C•

Grignard reagent ( <b>1900</b> ) (aryl or alkyl magnesium halides)		RMgBr
Grubbs ruthenium catalyst ( <b>1999</b> ) (dichloro(phenylmethylene)bis(tricyclohexylphosphine) ruthenium)	172222-30-9	$\text{RuCl}_2[=\text{CHPh}](\text{PCy}_3)_3$
Hagemann's ester ( <b>1893</b> ) (4-carbethoxy-3-methyl-2-cyclohexen-1-one)	487-51-4	
Harden and Young's ester ( <b>1906</b> ) (fructose-1,6-diphosphate)	488-69-7	
Hendrickson's reagent ( <b>1987</b> ) $\mu$ -oxohexaphenyldiphosphorus salt with trifluoromethanesulfonic acid	72450-51-2	$\text{Ph}_3\text{P}^+ \text{O}^- \text{PPh}_3^+ [\text{CF}_3\text{SO}_3^-]_2$
Heyns catalyst ( <b>1947</b> ) (10% platinum-charcoal)	7440-06-4 7440-44-0	Pt / C
Hünig's base ( <b>1958</b> ) (diisopropylethylamine)	7087-68-5	
Jacobsen's catalyst ( <b>1991</b> ) (salen-Mn(III))	149656-63-3 138124-32-0 135620-04-1	
Jaffé's base ( <b>1894</b> ) 1-(4,5-dihydro-1H-imidazol-2-yl)-2-imidazolidinethione	484-92-4	

Janovsky's complex ( <b>1886</b> )		
Lemieux-Johnson reagent ( <b>1958</b> ) (sodium periodate-osmium tetroxide), Lemieux-von Rudloff reagent ( <b>1955</b> ) (sodium periodate-potassium permanganate)	7790-28-5 20816-12-0  7790-28-5 7722-64-7	NaIO <sub>4</sub> / OsO <sub>4</sub>  NaIO <sub>4</sub> / KMnO <sub>4</sub>
Jones reagent ( <b>1946</b> ) (chromium trioxide/sulfuric acid)	1333-82-0 7664-93-9	CrO <sub>3</sub> / H <sub>2</sub> SO <sub>4</sub>
Kalle's acid (1-amino-2,7-naphthalenedisulfonic acid)	486-54-4	
Karstedt catalyst ( <b>1968</b> )		
Kemp's triacid ( <b>1981</b> ) (cyclohexyl triacid)	79410-20-1 118514-35-5 136662-41-4	
Kiliani reagent ( <b>1901</b> ) (chromic acid-sulfuric acid-water)	1333-82-0 7664-93-9 7713-18-5	H <sub>2</sub> CrO <sub>4</sub> / H <sub>2</sub> SO <sub>4</sub> / H <sub>2</sub> O

Koch's acid (8-amino-1,3,6-naphthalenetrisulfonic acid)	117-42-0	
Koelsch radical (1957)	2152-02-5 72087-85-5	
Kohler's ketone (1935) (mesityl-1,1-diphenylethyl ketone)	55800-31-2	
Koser's reagent (1982) (hydroxy(tosyloxy)iodobenzene)	124515-97-5	
Koshland's reagent number 1 (1964) 2-hydroxy-5-nitrobenzylbromide	772-33-8	
Koshland's reagent number 2 (1965)	3913-23-3	

<p>Koshland reagent number 3 (<b>1964</b>) (2-bromo-2'-hydroxy-5'-nitroacetanilide)</p>	3947-58-8	
<p>Künig's salt (<b>1904</b>) (N-methyl-N-[5-(benzylamino)penta-2,4-dienylidene]aniline hydrochloride)</p>	13984-07-1	