


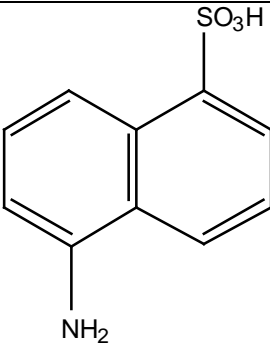
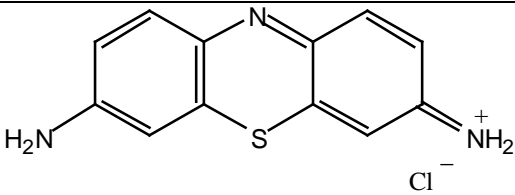
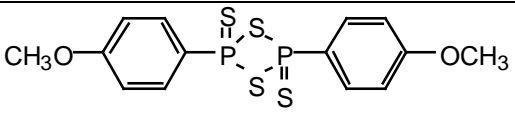
NAMED ORGANIC REAGENTS (PART 2)

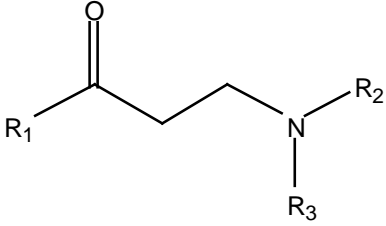
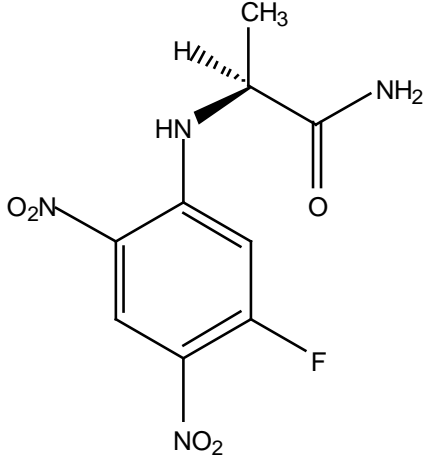
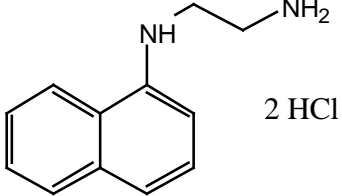
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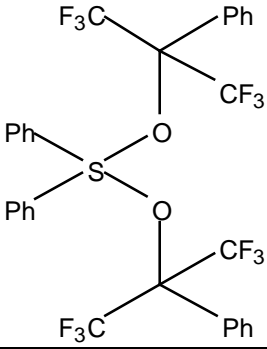
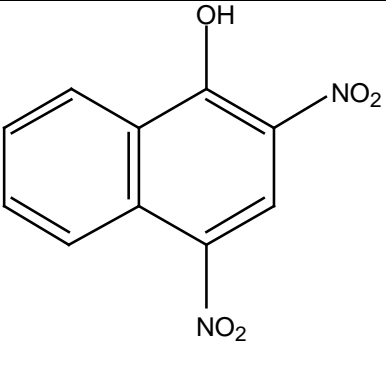
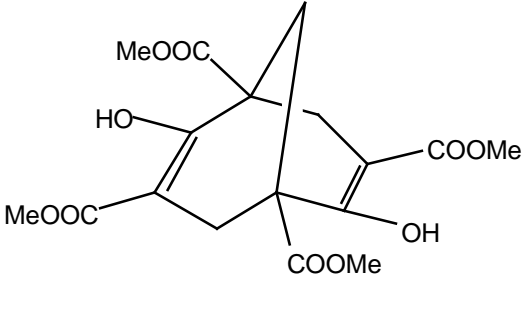
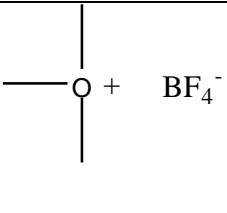
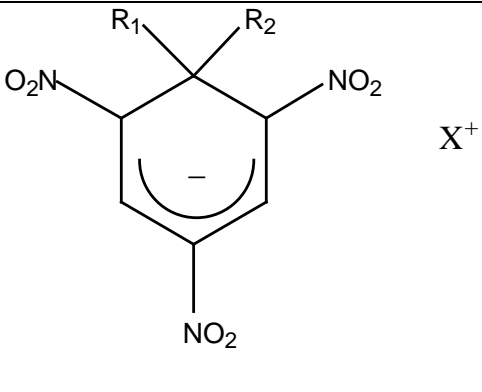
Department of Chemistry, York University
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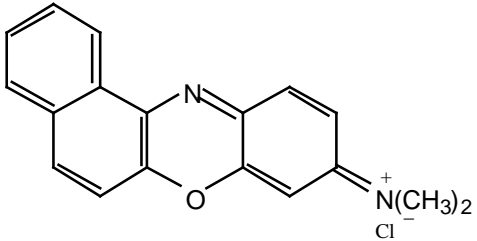
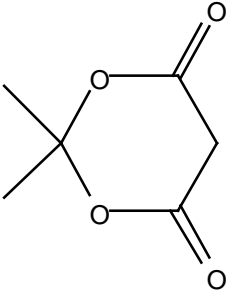
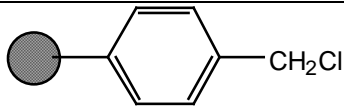
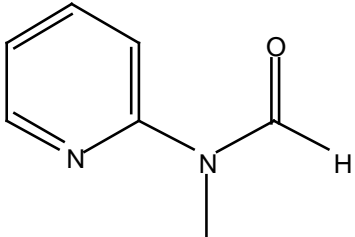
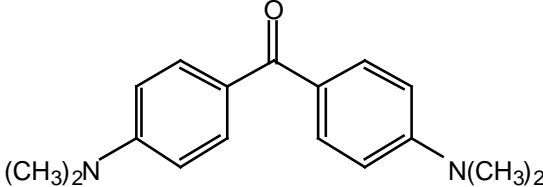
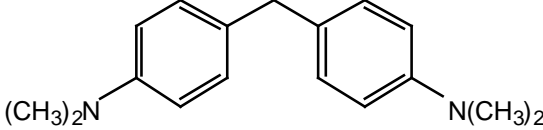
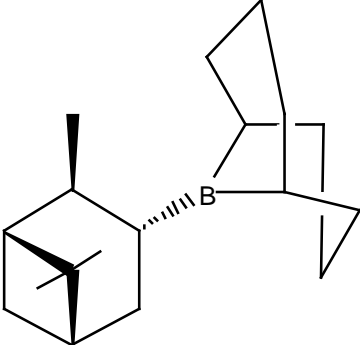
For suggestions, corrections, additional information, and comments please send e-mails to jandraos@yorku.ca

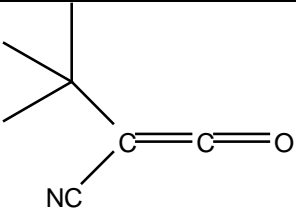
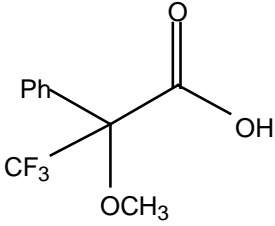
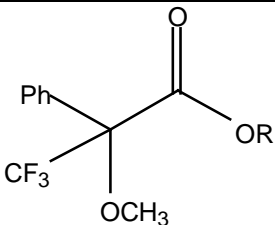
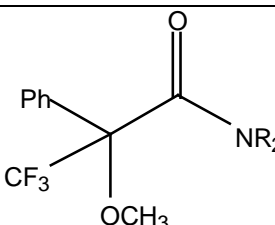
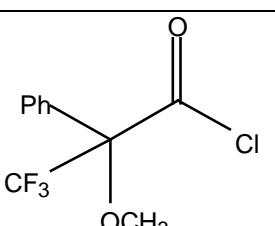
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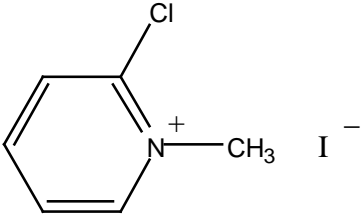
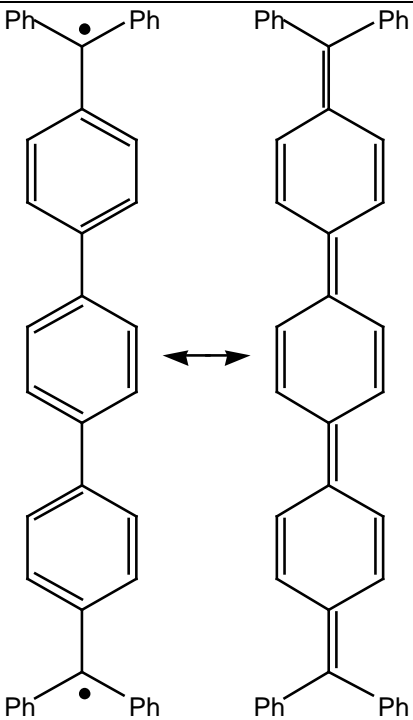
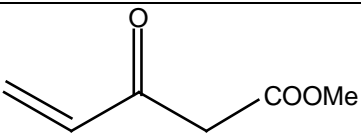
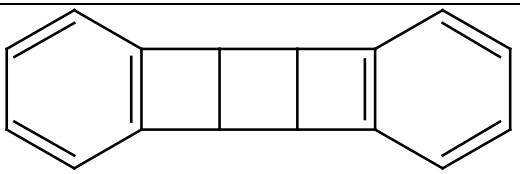
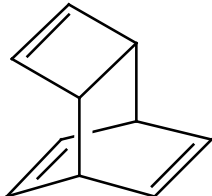
Eau-de-Labarraque (1825) (dilute sodium hypochlorite solution)	7681-52-9	NaOCl
Ladenburg benzene (1869) (prismane)	650-42-0	
Lalancette's reagent (1972) (boryl hydrotrisulfide, monosodium salt)	39791-28-1	H ₂ B-S-S-SH, Na
Laurent's acid (1850) (5-amino-1-naphthalenesulfonic acid)	84-89-9	
Lauth's violet (1876) (thionine or 3,7-diaminophenothiazin-5-ium chloride)	581-64-6	
Lawesson's reagent (1968), (2,4-bis(4-methoxyphenyl)-1,3-dithia-2,4-diphosphetane-2,4-disulfide)	19172-47-5 90412-95-6	
Lazier catalyst (1943) (copper chromite)	12018-10-9	2 CuO Cr ₂ O ₃
Lewis structures (1916), Lewis acid		electron acceptor

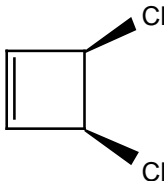
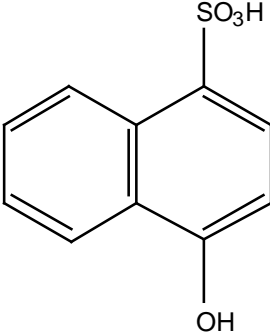
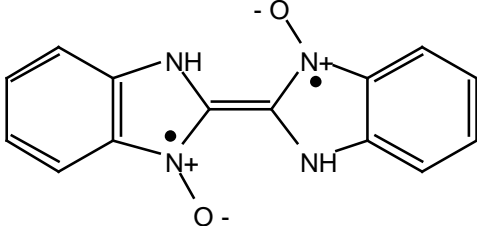
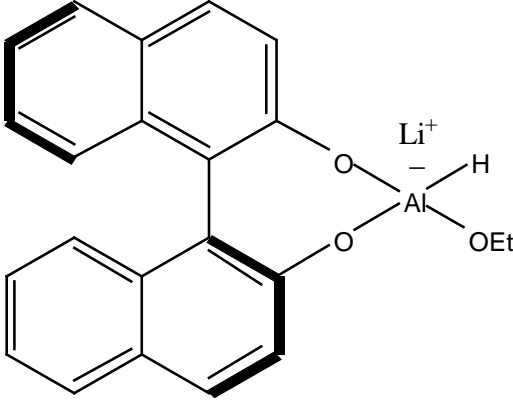
Lewisite (1925) (2-chloroethenylarsonous dichloride)	541-25-3	$\text{ClCH}=\text{CHAsCl}_2$
Lindlar's catalyst (palladium/calcium carbonate/lead oxide) (1952)	7440-05-3 471-34-1 1317-36-8	$\text{Pd} / \text{CaCO}_3 / \text{PbO}$
Magic acid (superacid) (1968) Fluorosulfuric acid:antimony pentafluoride (4:1)	23854-38-8	$\text{SbF}_5 \text{ FSO}_3\text{H}$
Mannich bases (1917) ($\text{R}_1 = \text{R}_2 = \text{R}_3 = \text{CH}_3$; 4-dimethylaminobutan-2-one)	2543-57-9	
Marfey's reagent (1984) Na-(5-fluoro-2,4-dinitrophenyl)-L-alaninamide	95713-52-8	
Marignac's salt (potassium stannosulfate)	27790-37-0	$\text{K}_2\text{Sn}(\text{SO}_4)_2$
Markush structures (1924)		Any structure having groups generalized as R groups where R = some functional group
Marshall's reagent or Bratton-Marshall reagent (1939) N-1-naphthylethylenediamine dihydrochloride	1465-25-4	

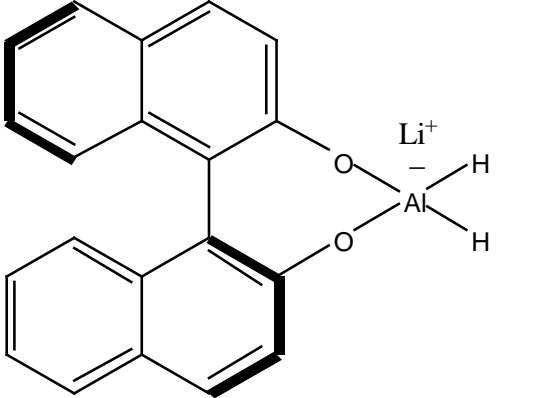
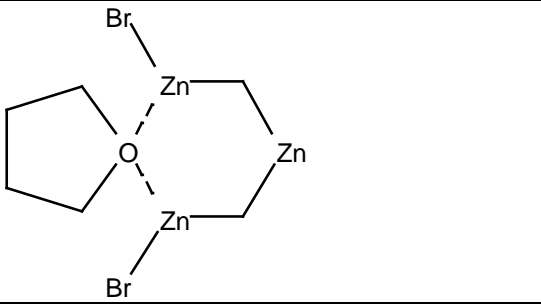
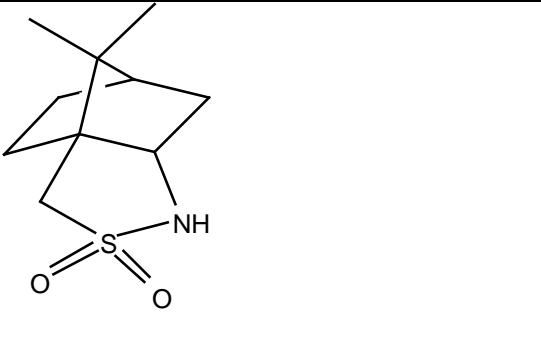
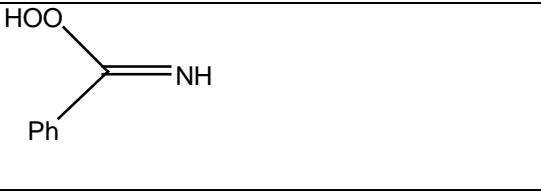
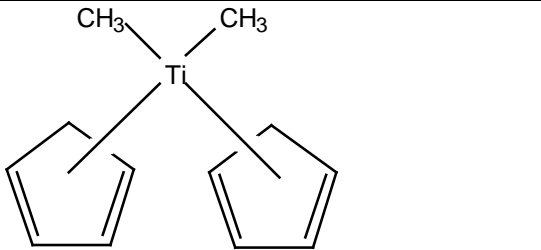
<p>Martin sulfurane dehydrating agent (1971) Bis-[α,α-bis(trifluoromethyl)benzenemethanolato] diphenyl sulfur</p>	32133-82-7	
<p>Martius yellow (1867) (2,4-dinitro-1-naphthol)</p>	605-69-6	
<p>McMurry's reagent (1974) (titanium (III)chloride-lithium aluminum hydride)</p>	7705-07-9 16853-85-3	TiCl ₃ / LiAlH ₄
<p>Meerwein ester (1913) (2,6-dihydroxybicyclo[3.3.1]nona-2,6-diene-1,3,5,7-tetracarboxylic acid, tetramethyl ester)</p>	6966-22-9 99308-99-3	
<p>Meerwein salt (1937) (trimethyloxonium tetrafluoroborate)</p>	420-37-1	
<p>Meisenheimer complex or adduct (1900)</p>		

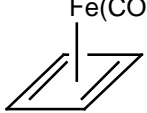
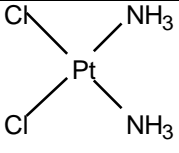
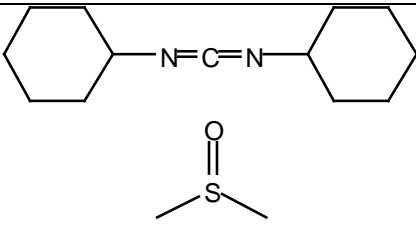
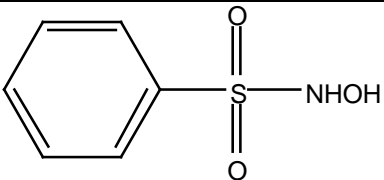
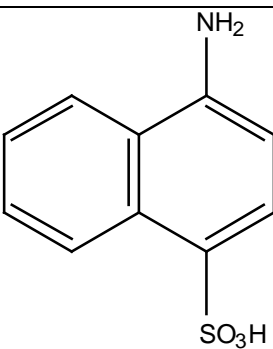
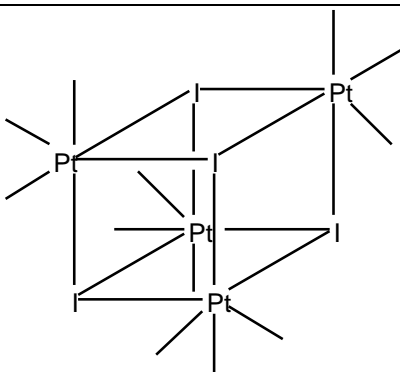
Meldola's blue (1879) (9-(dimethylamino)benzo[a]phenoxazin-7-ium chloride)	966-62-1	
Meldrum's acid (1908) (2,2-dimethyl-1,3-dioxane-4,6-dione)	2033-24-1	
Merrifield resin (1963) (chloromethylated styrene/divinylbenzene copolymer)	55844-94-5	
Meyers reagent (1978) N-methyl-N-(2-pyridyl)formamide	67242-59-5	
Michler's ketone (1876) (4,4'-bis(N,N-dimethylamino)benzophenone)	90-94-8	
Michler's hydride or Michler's base or Michler's hydrol (1879) (4,4'-bis(N,N-dimethylamino)diphenyl methane)	101-61-1	
Midland's reagent (1979) (3-pinanyl-9-BBN or 9-(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)- 9-borabicyclo[3.3.1]nonane)	64106-79-2 73624-47-2 76695-88-0 100347-98-6	

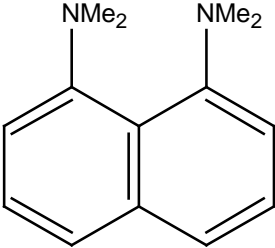
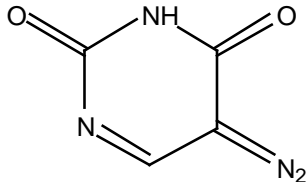
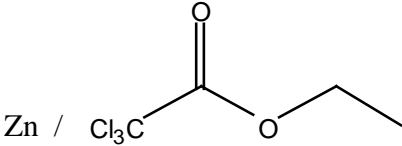
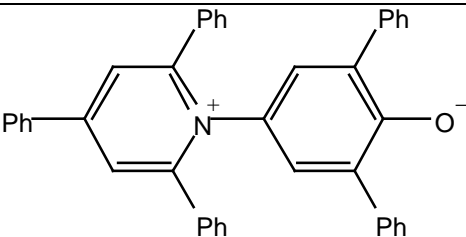
Mitsunobu reagent (1969) (triphenylphosphine-diethyl azodicarboxylate)	1972-28-7 4143-60-6 4143-61-7 603-35-0 58079-51-9	$\text{EtOOC}-\text{N}=\text{N}-\text{COOEt}$ Ph_3P
Mohr's salt (ferrous ammonium sulphate)	7782-63-0 7783-20-2	$\text{FeSO}_4 (\text{NH}_4)_2\text{SO}_4 \cdot 6 \text{H}_2\text{O}$
Moore's ketene (1975) (<i>t</i> -butylcyanoketene)	29342-22-1	
Mosher's acid (1967)	17257-71-5 20445-31-2 56135-03-6 81655-41-6	
Mosher esters (1967) (R = CH ₃)	20445-37-8 26164-19-2 77611-72-4 111688-22-3	
Mosher amides (1967) (R = H)	105678-40-8 120576-70-7 128051-92-3	
Mosher's acid chloride (1967)	20445-33-4 39637-99-5 40793-68-8 64312-89-6	

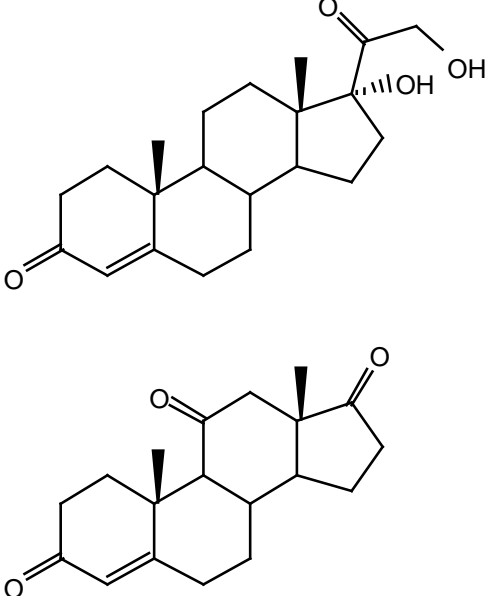
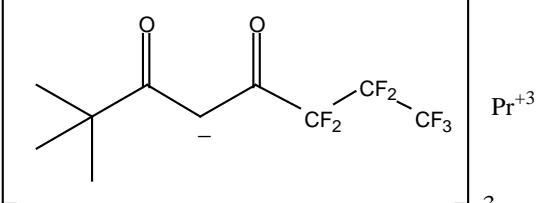
<p>Mukaiyama's reagent (1975) (2-chloro-1-methylpyridinium iodide)</p>	<p>14338-32-0</p>	
<p>Müller's hydrocarbo (biradical) (1941) (quinoid: 3,6-bis-(4-benzhydrylidene-cyclohex-2,5-dienylidene)-cyclohex-1,4-diene; biradical: [1,1':4',1''-terphenyl]-4',4''-diylbis[diphenylmethyl])</p>	<p>33933-87-8 (quinoid) 26374-66-3 (biradical)</p>	
<p>Muthmann's liquid (1,1,2,2-tetrabromoethane)</p>	<p>79-27-6</p>	<p>$\text{Br}_2\text{CHCHBr}_2$</p>
<p>Nazarov's reagent (1953) (methyl 5-methoxy-3-oxopent-4-enoate)</p>	<p>37734-05-7</p>	
<p>Nenitzescu's dimer (1959) (4b,4c,8b,8c-tetrahydrocyclobuta[1'',2'':3,4;3'',4'':3',4']dicyclobuta[1,2:1',2']-dibenzene; dimer of benzocyclobutene)</p>	<p>6574-36-3</p>	
<p>Nenitzescu's hydrocarbon (1972) (tricyclo[4.2.2.0^{2,5}]deca-3,7,9-triene)</p>	<p>21604-76-2</p>	

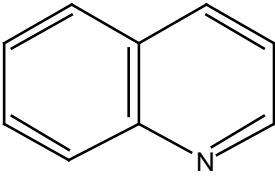
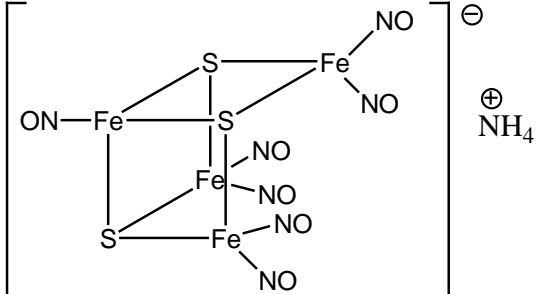
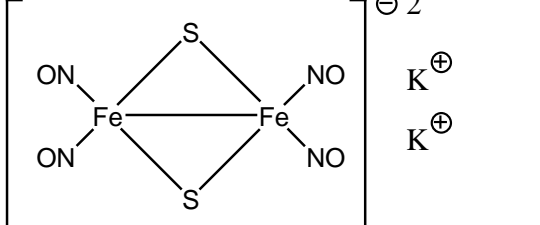
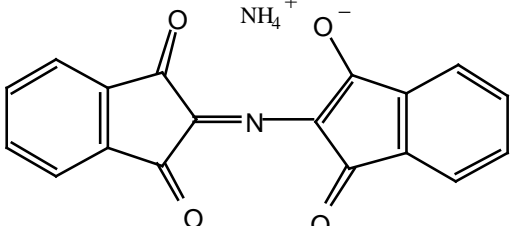
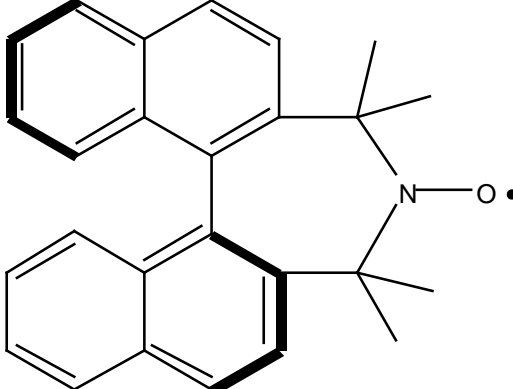
Nenitzescu's dichloride (1964) (cis-3,4-dichlorocyclobutene)	2957-95-1	
Nessler reagent (1856) (dipotassium tetraiodomercurate(II))	7783-33-7	$K_2 [HgI_4]$
Nevile and Winther's acid (1880) (4-hydroxy-1-naphthalenesulfonic acid)	84-87-1	
Niementowski's dye (1910) (3,3'-dioxide-2,2'-bibenzimidazole)	31647-58-2	
Nishimura catalyst (1960) (rhodium oxide-platinum oxide)	12137-27-8 12137-21-2	RhO_2 / Pt_2O
Noyori's BINAL-H reagent (lithium (1,1'-binaphthalene-2,2'-diolato)(ethanolato) hydrido aluminate)		

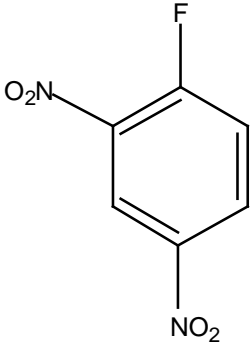
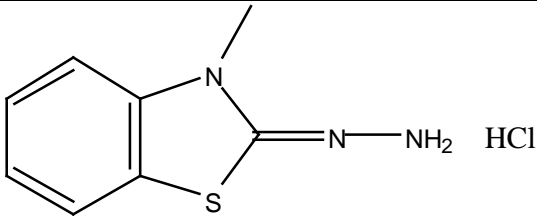
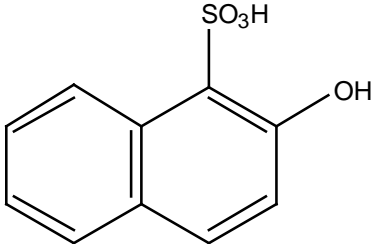
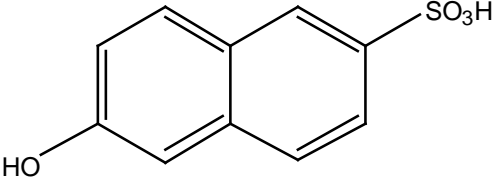
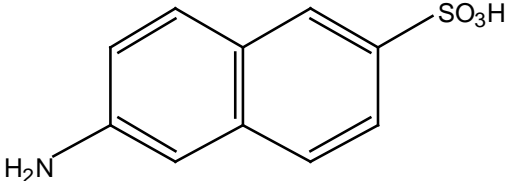
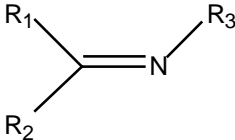
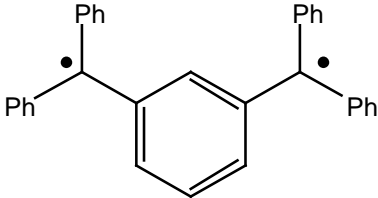
Noyori reagent (1979) (lithium aluminum hydride-2,2'-dihydroxy-1,1'-binaphthyl)		
Nysted reagent (1975) (cyclodibromodi- μ -methylene[μ -(tetrahydrofuran)]trizinc)	41114-59-4	
Olah's reagent (1973) (pyridinium poly(hydrogenfluoride))		$(\text{HF})_x \text{C}_5\text{H}_5\text{N}$
Oppolzer's auxiliary (1990) (2,10-camphorsultam)	94594-90-8 108448-77-7	
Payne's reagent (1961) (peroxybenzimidic acid)		
Pearlman's catalyst (1973)	12135-22-7	$\text{Pd}(\text{OH})_2 / \text{H}_2$
Petasis reagent (1992) (bis((η 5-2,4-cyclopentadien-1-yl)dimethyl titanium; dicyclopentadienyldimethyltitanium)	1271-66-5	

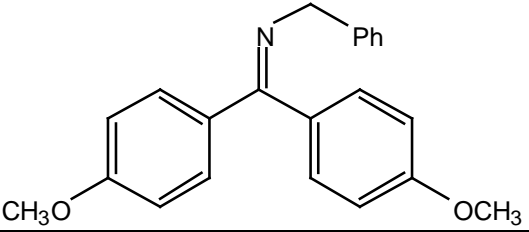
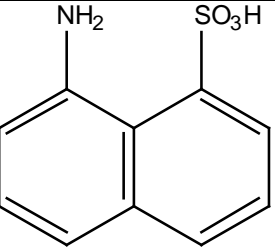
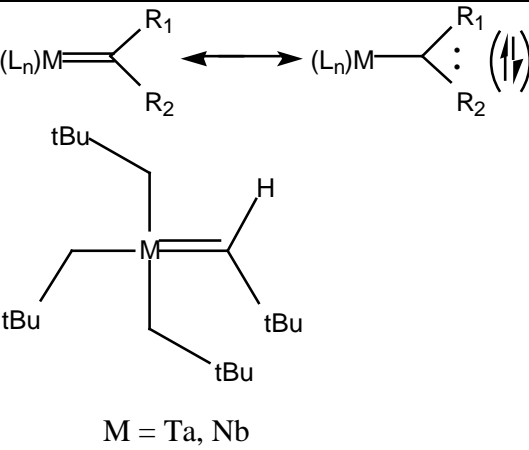
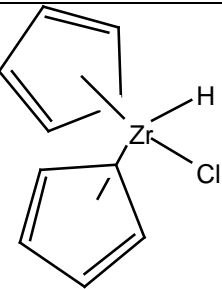
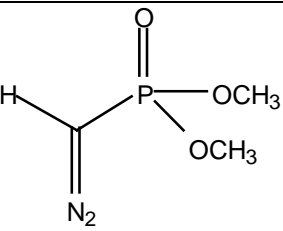
Pettit's complex (1965) (tricarbonyl(η^4 -1,3-cyclobutadiene)iron)	12078-17-0	$\text{Fe}(\text{CO})_3$ 
Peyrone's salt (1844) (cis-platin, cis-dichlorodiammineplatinum)	15663-27-1	
Pfizzner-Moffatt reagent (1963) (dimethylsulfoxide-dicyclohexylcarbodiimide)	538-75-0 67-68-5	
Piloty's acid (1896) (benzenesulfohydroxamic acid)	599-71-3	
Piria's acid (1851) (4-amino-1-naphthalenesulfonic acid)	84-86-6	
Pope's complex (1907) (tetra- μ_3 -iodododecamethyltetraplatinum)	18253-26-4	

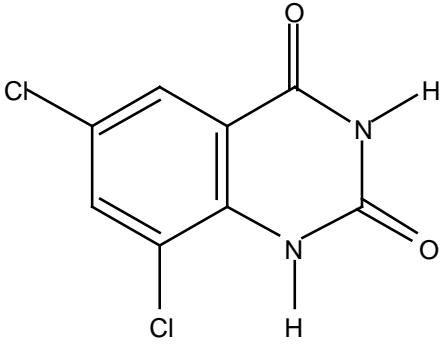
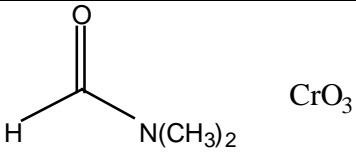
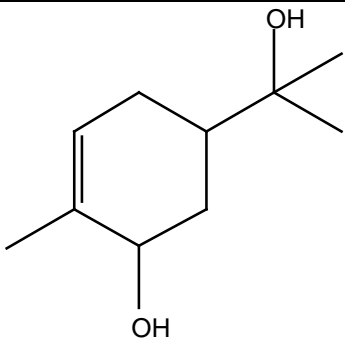
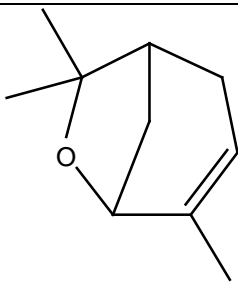
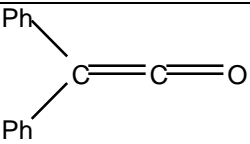
proton sponge (1941) (1,8-bis(dimethylamino)naphthalene)	20734-58-1	
Raney nickel (1927)	7440-02-0 7429-90-5 1333-74-0	Ni(Al) H ₂
Ratcliffe's reagent (1976) (chromium(VI)oxide-dipyridine complex)	20492-50-6	CrO ₃ / 2 Pyr
Raybin's reagent (1933) 5-diazouracil	2435-76-9	
Reformatskii reagent (1887) (zinc - ethyl trichloroacetate)	515-84-4	Zn / 
Reichardt's dye (1983) (2,6-diphenyl-4-(2,4,6-triphenylpyridinium) phenoxide, or 2,4,6-triphenyl-N-(3,5-diphenyl-4-oxidophenyl)pyridinium betaine, or 2,6-diphenyl-4-(2,4,6-triphenylpyridinium-1-yl)phenolate)	10081-39-7	

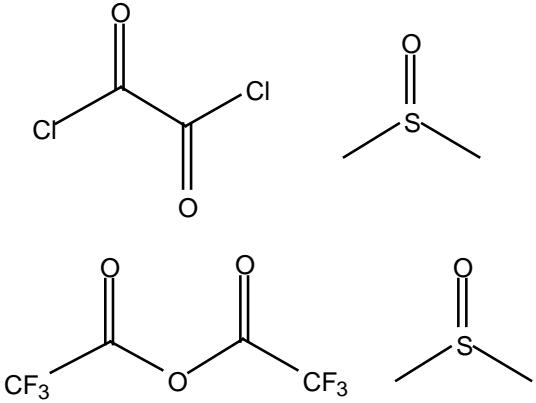
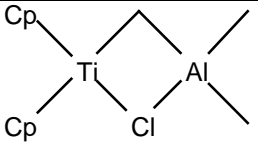
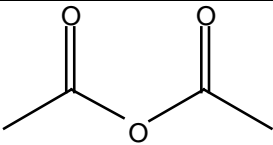
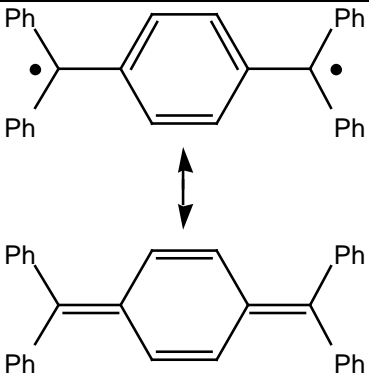
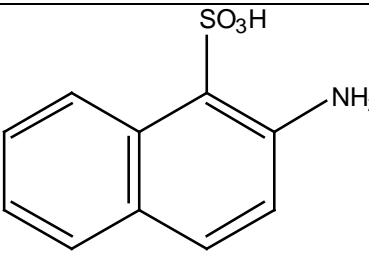
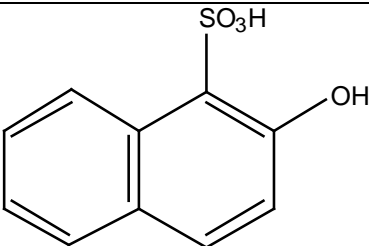
<p>Reichstein's substance S Cortexolone</p> <p>Reichstein's substance G (1937) adrenosterone</p>	<p>152-58-9</p> <p>382-45-6</p>	
<p>Reinecke salt (1863) (ammonium tetrathiocyanatodiamine chromate (III))</p>	<p>13573-16-5</p>	<p>$\text{NH}_4^+ [\text{Cr}(\text{NH}_2)_2(\text{SCN})_4]^-$</p>
<p>Ringer's solution (1880 - 1882) (aqueous solution of sodium chloride, potassium chloride, and calcium chloride)</p>	<p>7647-14-5 7447-40-7 10043-52-4 7713-18-5</p>	<p>NaCl, KCl, CaCl_2, H_2O</p>
<p>Rochelle salt (1672) (sodium potassium tartrate tetrahydrate)</p>	<p>147-79-5 304-59-6 15490-42-3 6381-59-5</p>	<p> $\begin{array}{c} \text{COONa} \\ \\ \text{---} \text{OH} \\ \\ \text{---} \text{OH} \\ \\ \text{COOK} \end{array} \quad 4 \text{ H}_2\text{O}$ </p>
<p>Rondeau's reagent (1971) (tris(6,6,7,7,8,8,8-heptafluoro-2,2- dimethyl-3,5- octanedionato)praseodymium)</p>	<p>17978-77-7</p>	<p>  </p>

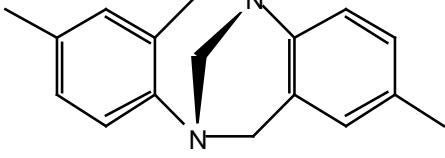
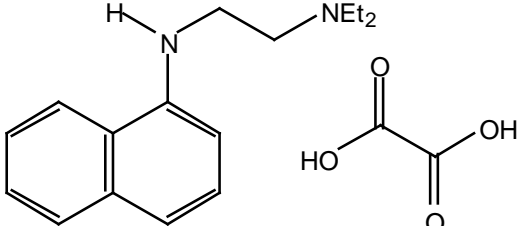
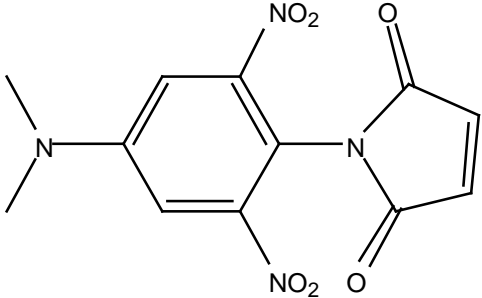
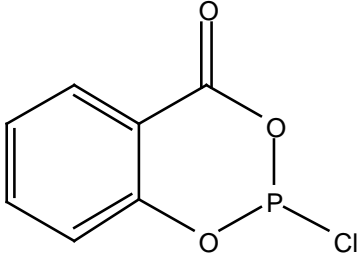
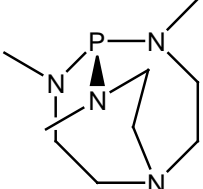
<p>Rosenmund catalyst (1921) (palladium, barium sulfate, quinoline, sulfur)</p>	<p>7440-05-3 7727-43-7 7704-34-9 91-22-5</p>	<p>Pd, BaSO₄, S</p> 
<p>Roussin's black salt (1858)</p>	<p>12518-87-5</p>	
<p>Roussin's red salt (1858)</p>	<p>58204-17-4</p>	
<p>Ruhemann's purple (1910)</p>	<p>78950-28-4</p>	
<p>Rychnovsky's TEMPO catalyst (1996) (11b-(S)-3,5-dihydro-3,3,5,5-tetramethyl-4H-naphth[2,1c:1',2'-e]azepin-4-yloxy)</p>	<p>174900-79-9</p>	

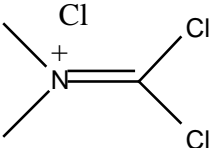
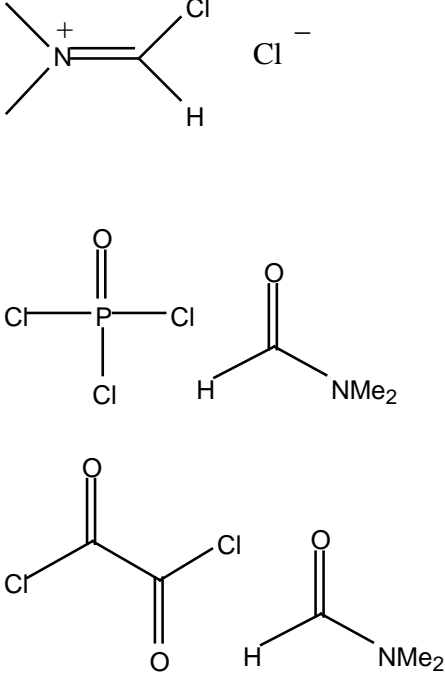
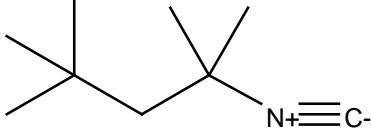
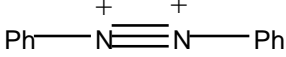
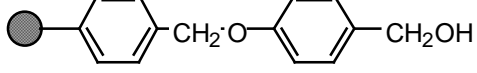
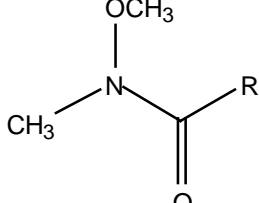
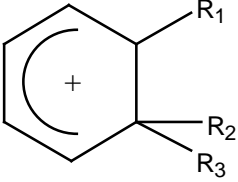
Sanger's reagent (1945) (2,4-dinitrofluorobenzene)	70-34-8	
Sarett reagent (1953) (chromium trioxide/pyridine)		CrO ₃ / 2 Pyr
Sawicki's reagent (1961) 3-methyl-2-benzothiazolinonehydrazone hydrochloride	38894-11-0	
Schaeffer's acids 2-hydroxy-1-naphthalenesulfonic acid	567-47-5	
6-hydroxy-2-naphthalenesulfonic acid	93-01-6	
6-amino-2-naphthalenesulfonic acid (amino Schaeffer's acid)	93-00-5	
Schiff base, Schiff's reagent (1864) (R ₁ = R ₂ = R ₃ = CH ₃)	6407-34-7 19885-74-6	
Schlenk-Brauns biradical (1915) (1,3-phenylenebis[diphenylmethyl])	26298-19-1	

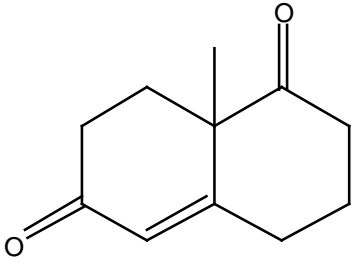
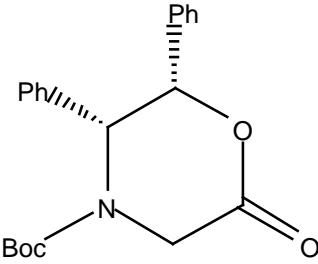
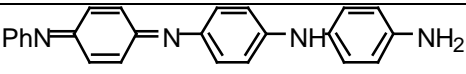
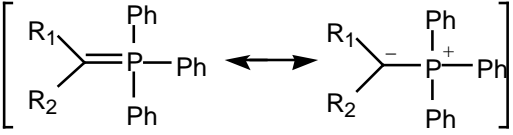
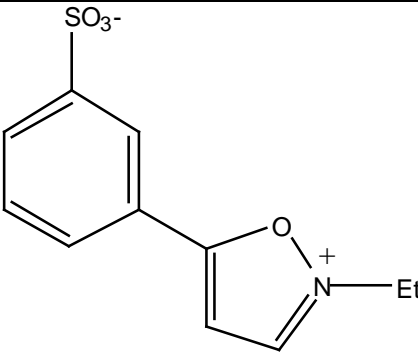
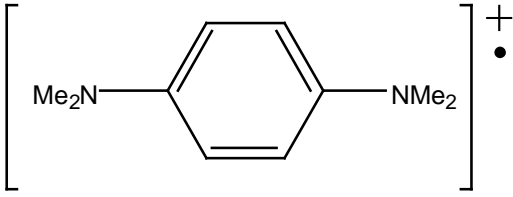
Schönberg's reagent (N-[bis(4-methoxyphenyl)methylene]-benzenemethanamine)	524-96-9	
Schöllkopf's acid (8-amino-1-naphthalenesulfonic acid)	82-75-7	
Schrock carbene (1974)	54294-45-0 (M = Ta) 60514-42-3 (M = Nb)	 <p style="text-align: center;">M = Ta, Nb</p>
Schwartz's reagent (1974) (chlorobis(η ⁵ -2,4-cyclopentadien-1-yl) hydro zirconium)	37342-97-5	
Schweizer's reagent (1857) (tetraamminecopper dihydroxide)	17500-49-1	[Cu(NH ₃) ₄](OH) ₂
Seyferth-Gilbert reagent (1971) (dimethyl diazomethylphosphonate)	25411-73-8 27491-70-9 28447-24-7	

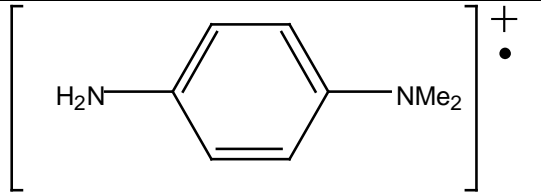
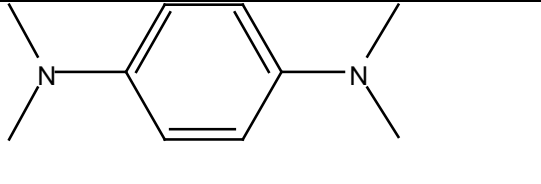
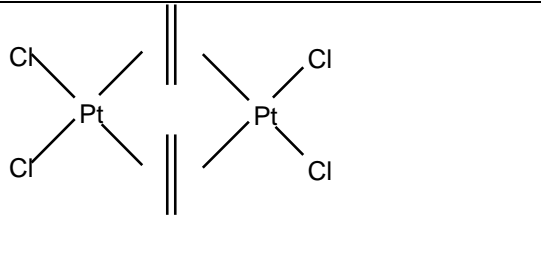
Sheibley's reagent (1938) (6,8-dichlorobenzoyleneurea, or 6,8-dichloro-1H-quinazoline-2,4-dione, or 6,8-dichloro-2,4(1H, 3H)- quinazolinedione)	610-24-2	
Simmons-Smith reagent (1958) (zinc - diiodomethane)	7440-66-6 75-11-6	$\text{Zn} / \text{CH}_2\text{I}_2 = (\text{ICH}_2\text{ZnI})$
Snatzke's reagent (1961) (chromium(VI)oxide-dimethylformamide)	68-12-2 1333-82-0	
Sobrerol (1851)	498-71-5 454-77-3 772-36-1	
Sobrerone (1851) (pinol)	2437-97-0	
Staudinger's ketene (1905) (diphenylketene)	525-06-4	

Swern reagent (1978) (dimethylsulfoxide-oxalylchloride; dimethylsulfoxide-trifluoroacetic anhydride)	79-37-8 67-68-5 407-25-0 67-68-5	
Tebbe reagent (1978) (μ -chlorobis(cyclopentadienyl) (dimethylaluminum) μ -methylene titanium)		
Thiele reagent (1900) (chromium(VI)oxide-acetic anhydride)	108-24-7 1333-82-0 7664-93-9	
Thiele's hydrocarbon (biradical) (1904) (quinoid: 1,1',1'',1'''-(2,5-cyclohexadiene-1,4-diylidenedimethanetetrayl)tetrakisbenzene; biradical: p-phenylenebis[diphenylmethyl])	26392-12-1 (quinoid) 124129-16-4 (biradical)	
Tobias' acid (1893) (2-amino-1-naphthalenesulfonic acid)	81-16-3	
Oxy-Tobias' acid (2-hydroxy-1-naphthalenesulfonic acid or Stebin's acid)	567-47-5	

Tollens reagent (1882) (aqueous solution of silver nitrate, sodium hydroxide, ammonium hydroxide)	7761-88-8 1310-73-2 1336-21-6 7713-18-5	AgNO_3 , NaOH, NH_4OH , H_2O
Tröger's base (1887) ((+)(5R,11R)-2,8-dimethyl-6H-12H-5,11-methanodibenzo[b.f][1,5]diazocine)	529-81-7 14645-24-0 21451-74-1 72151-03-2	 <p>R,R - form</p>
Tsuda's reagent N-(2-diethylaminoethyl)-1-naphthylamine oxalate	29473-53-8	
Tuppy's maleimide (1960) (N-(4-dimethylamino-3,5-dinitrophenyl) maleimide)	3475-74-9	
Van Boom's reagent (1986) 2-chloro-4H-1,3,2-benzodioxaphosphorin-4-one	5381-99-7	
Vaska compound (1962) (carbonylchlorobis(triphenylphosphine) iridium(I))	14871-41-1	$(\text{Ph}_3\text{P})_2\text{Ir}(\text{CO})\text{Cl}$
Vedejs reagent (1986) (oxodiperoxymolybdenum(pyridine) (hexamethylphosphoric triamide))	110-86-1 1608-26-0	$\text{MoO}_5(\text{pyr})(\text{HMPT})$
Verkade's superbases (1989)	120666-13-9	

<p>Viehe's salt (1971) (dichloromethylenedimethyl ammonium chloride, or phosgene immonium chloride)</p>	33842-02-3	
<p>Vilsmeier reagent (1927) ((chloromethylene)dimethylammonium chloride, or DMF/POCl₃, or DMF/oxalylchloride)</p>	<p>3724-43-4</p> <p>15144-9 18997-06-3</p> <p>79-37-8 18997-06-3</p>	
<p>Walborsky reagent (1969) (1,1,3,3-tetramethylbutylisocyanide)</p>	14542-93-9	
<p>Wallach intermediate (1880)</p>		
<p>Wang resin (1973) (4-benzyloxybenzyl alcohol, polymer)</p>	201058-08-4	
<p>Weinreb amide (1981)</p>		
<p>Wheland intermediate (1942)</p>		

<p>Wieland-Miescher ketone (1950) (8a,S)-8a-methyl-3,3,8,8a-tetrahydro-2H,7H-naphthalene-1,6-dione)</p>	<p>20000-72-1 20007-99-2 33878-99-8 100348-93-4</p>	
<p>Wilkinson's catalyst (1965) (chlorotris(triphenylphosphine) rhodium (I))</p>	<p>14694-95-2</p>	<p>(Ph₃P)₃RhCl</p>
<p>Williams glycinate (1986) ((5S,6R)-4-(tert-butyloxycarbonyl)-5,6-diphenyl-2,3,5,6-tetrahydro-4H-1,4-oxazin-2-one)</p>	<p>112741-49-8 112741-50-1</p>	
<p>Willstatter imines (1907) ([1,4]-benzoquinon-[4-(4-aminoanilino)-phenylimine]-phenylimine)</p>	<p>108673-54-7</p>	
<p>Wittig reagent (1954) (triphenylphosphonium methylides)</p>		
<p>Woodward's reagent (1961) (N-ethyl-5-phenylisoxazolium-3'-sulfonate)</p>	<p>4156-16-5</p>	
<p>Wurster's dye, Wurster's blue (1879) (1,4-bis(N,N'-dimethyl)benzene radical cation)</p>	<p>34527-55-4</p>	

Wurster's dye, Wurster's red (1879) (1-(N,N'-dimethyl)-2-aminobenzene radical cation)	25540-69-6	
Wurster's reagent (1879) (N,N,N',N'-tetramethyl-1,4-benzenediamine or 1,4-bis(dimethylamino)benzene)	100-22-1	
Zeise's dimer (1827)		
Zeise's salt (1827) (potassium trichloro(ethylene)platinate(II) monohydrate)	12012-50-9	K [PtCl ₃ (C ₂ H ₄)]
Ziegler-Natta catalyst, Ziegler-Natta polymerization (1955-1956) (titanium tetrachloride, triethyl aluminum)	7550-45-0 97-93-8	TiCl ₄ , Et ₃ Al