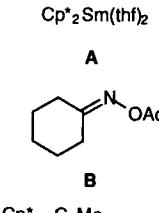
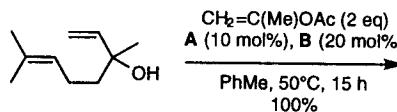


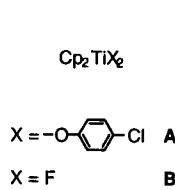
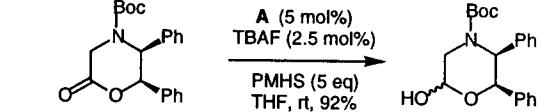
SYNTHESIS ALERTS

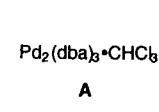
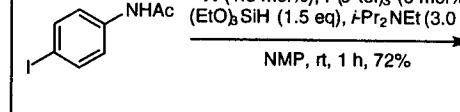
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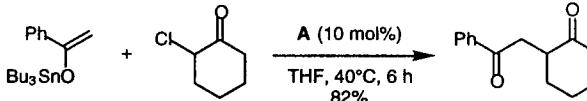
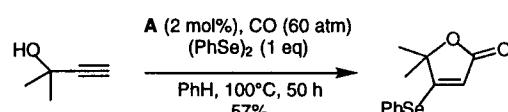
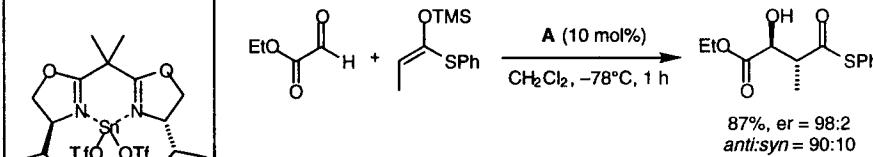
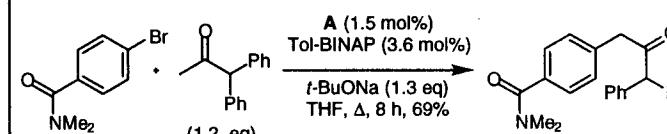
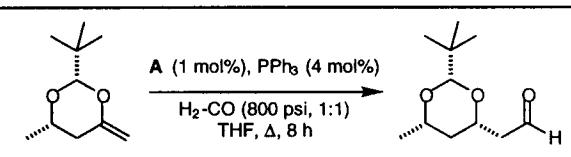
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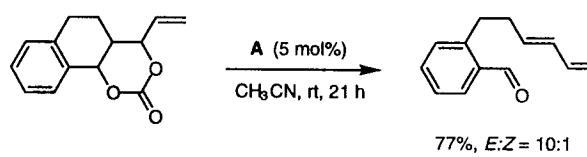
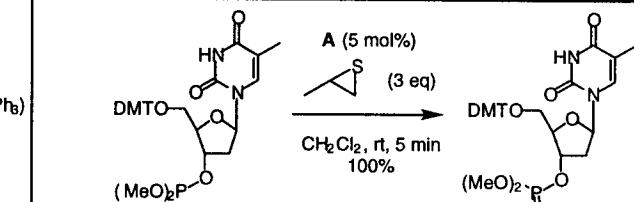
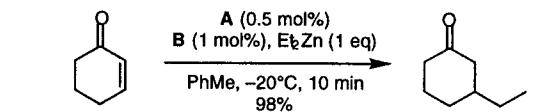
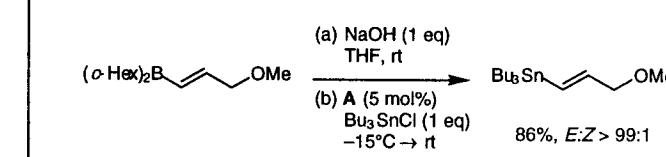
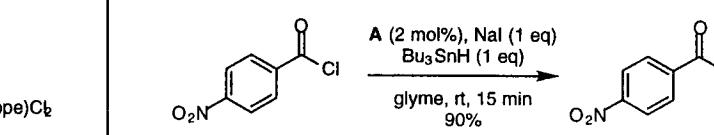
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Bis(tetrahydrofuran)bis(pentamethylcyclopentadienyl)samarium(II) / Cyclohexanone Oxime Acetate			Catalyst
<p>Tertiary alcohols are acetylated with isopropenyl acetate in the presence of a catalytic amount of A and B. The method allows the acetylation of tertiary alcohols under acid-free conditions.</p> <p>D. Tashiro, Y. Kawasaki, S. Sakaguchi, Y. Ishii. <i>J. Org. Chem.</i> 1997, 62, 8141.</p>	 <p>A B $\text{Cp}^* = \text{C}_5\text{Me}_5$</p>	 <p>$\text{CH}_2=\text{C}(\text{Me})\text{OAc}$ (2 eq) A (10 mol%), B (20 mol%) PhMe, 50°C, 15 h 100%</p>	

Titanocene Di- p-chlorophenoxyde			Catalyst
<p>Titanocene catalysed reduction of lactones to lactols is carried out via air-stable precatalyst A (or B) using inexpensive polymethylhydro-siloxane (PMHS) as the stoichiometric reductant.</p> <p>X. Verdaguer, M. C. Hansen, S. C. Berk, S. L. Buchwald. <i>J. Org. Chem.</i> 1997, 62, 8522.</p>	 <p>A $\text{X} = -\text{O}-\text{C}_6\text{H}_4-\text{Cl}$ B $\text{X} = \text{F}$</p>	 <p>A (5 mol%) TBAF (2.5 mol%) PMHS (5 eq) THF, rt, 92%</p>	

Tris(dibenzylideneacetone)dipalladium(0)-chloroform adduct			Catalyst
<p>The title reagent catalyses the silylation of aryl halides with triethoxysilane to afford the corresponding arylsilanes.</p> <p>M. Murata, K. Suzuki, S. Watanabe, Y. Masuda. <i>J. Org. Chem.</i> 1997, 62, 8569.</p>	 <p>A</p>	 <p>A (1.5 mol%), $\text{P}(o\text{-tol})_3$ (6 mol%) $(\text{EtO})_3\text{SiH}$ (1.5 eq), $i\text{-Pr}_2\text{NEt}$ (3.0 eq) NMP, rt, 1 h, 72%</p>	

Zinc(II) Chloride	Catalyst
The title reagent catalyses the synthesis of 1,4-diketones from tin enolates and α -chloro ketones.	 <p>8 examples (yields 47-100%). ZnBr₂ also catalysed the reactions.</p>
M. Yasuda, S. Tsuji, I. Shibata, A. Baba <i>J. Org. Chem.</i> 1997, 62, 8282.	
Tetrakis(triphenylphosphine)palladium	Catalyst
Catalyses the carbonylative lactonisation of propargyl alcohols with carbon monoxide and diaryl disulfides or diaryl diselenides.	 <p>14 examples (yields 14-74%).</p>
A. Ogawa, H. Kuniyasu, N. Sonoda, T. Hirao <i>J. Org. Chem.</i> 1997, 62, 8361.	
{2,2-Bis[(S)-4-isopropyl-1,3-oxazolyl]}propane-tin(II) Trifluoromethanesulfonate	Catalyst
The title complex catalyses the enantioselective <i>anti</i> -aldol reaction between silylketene acetals and glyoxylate esters.	 <p>7 examples of addition to ethyl glyoxylate (yields 72-90%, %ee 92-98%, %de (<i>anti</i>) 80-92%). 7 examples of addition of silylketene acetals to methyl pyruvate catalysed by a related 'pybox' Sn(II) complex (yields 76-94%, %ee 92-99%, %de (<i>anti</i>) 90-98%).</p>
D. A. Evans, D. W. C. MacMillan, K. R. Campos <i>J. Am. Chem. Soc.</i> 1997, 119, 10859.	
Tris(dibenzylideneacetone)dipalladium(0)	Catalyst
The title reagent catalyses the α -arylation of ketones by aryl bromides.	 <p>12 examples (yields 71-93%).</p>
M. Palucki, S. L. Buchwald <i>J. Am. Chem. Soc.</i> 1997, 119, 11108.	
Dicarbonyl Rhodium(I) Acetylacetone	Catalyst
Catalyses the diastereoselective hydroformylation of cyclic enol ethers.	 <p>5 examples (yields 71-81%, dr > 50:1, regioselectivity > 9:1).</p>
J. L. Leighton, D. N. O'Neil <i>J. Am. Chem. Soc.</i> 1997, 119, 11118.	

Tris(dibenzylideneacetone)dipalladium(0)-chloroform adduct			Catalyst
Catalyses the ring opening of 4-vinyl cyclic carbonates to furnish a variety of dienals and dienones.	[Pd ₂ (dba) ₃]•CHCl ₃ A		
H. Harayama, T. Kuroki, M. Kimura, S. Tanaka, Y. Tamari <i>Angew. Chem. Int. Ed. Engl.</i> 1997, 36, 2352.			12 examples (yields 54-93%).
Trichlorooxo(dimethylsulfide)(triphenylphosphineoxide)rhenium			Catalyst
The title reagent catalyses the sulfurisation of phosphorus(III) compounds by thiiranes.	ReOCls(SMe ₂)(OPPh ₃) A		
J. B. Arterburn, M. C. Perry <i>Tetrahedron Lett.</i> 1997, 38, 7701.			6 other examples of simple phosphines and phosphites (yields 85-100%).
Copper(II) Triflate / Triethylphosphite			Catalyst
A combination of the title reagents catalyses the conjugate addition of diethyl zinc to enones.	Cu(OTf) ₂ A		
A. Alexakis, J. Vastra, P. Mangeney <i>Tetrahedron Lett.</i> 1997, 38, 7745.			13 examples (yields 0, 61-98%). α,β -Unsaturated esters/nitriles were too unreactive for successful addition; however, nitrostyrene and alkylidene malonates were competent electrophiles.
Copper(II) Acetylacetonate			Catalyst
The title reagent catalyses the stereoretention cross-coupling reaction of (<i>E</i>)- or (<i>Z</i>)-1-alkenyl-dialkylboranes with tributyltin chloride to afford the corresponding vinylstannanes.	Cu(acac) ₂ A		
M. Hoshi, K. Takahashi, A. Arase <i>Tetrahedron Lett.</i> 1997, 38, 8049.			4 examples (yields 80-86%, E:Z > 99:1). Conversion of (<i>Z</i>)-1-halo-1-alkenyl-dialkylboranes to (<i>Z</i>)-1-alkenyl-dialkylboranes and subsequent cross-coupling is also discussed (yields 67-85%, E:Z ~ 1:10).
(1,2-Diphenylphosphinoethane)nickel Dichloride			Catalyst
Catalyses the reduction of acyl halides to aldehydes by tributyltin hydride.	Ni(dppe)Cl ₂ A		
C. Malanga, S. Mannucci, L. Lardicci <i>Tetrahedron Lett.</i> 1997, 38, 8093.			9 examples (yields 44-90%). Decarbonylation can be a major side reaction. dppe = 1,2-bis(diphenylphosphine)ethane

Trichlorooxobis(triphenylphosphine)rhenium		Catalyst
The title reagent catalyses the stereoselective olefination of aldehydes with ethyl diazoacetate to afford (<i>E</i>)- α,β -unsaturated esters.	$\text{ReOCls}(\text{PPh}_3)_2$ A	<p style="text-align: center;">$\text{TBS}-\text{CHO} \xrightarrow[\text{THF, rt, 2 h}]{\text{A (1 mol\%)}, (\text{EtO})_3\text{P (1 eq)}, \text{N}_2\text{CHCO}_2\text{Et (1 eq)}} \text{TBS}-\text{C=C-CO}_2\text{Et}$ 90%, $E:Z = 7:1$</p>
B. E. Ledford, E. M. Carreira <i>Tetrahedron Lett.</i> 1997, 38, 8125.		

(2 <i>S</i>)- <i>N'</i> -(2-(1-Diphenylphosphinyl-3-methyl)butyl)- <i>N,N</i> -dimethylformamidine		Ligand
Palladium(0) complexes derived from the title ligand catalyse the enantioselective substitution reaction of allylic acetates by malonate nucleophiles.		<p style="text-align: center;">$\text{Ph}-\text{CH}_2-\text{CH(OAc)}-\text{CH}_2 + \text{CH}_2=\text{CH-COO}_2\text{Me} \xrightarrow[\text{BSA (3 eq), LiOAc (5 mol\%) }]{[\text{Pd}(\eta^3-\text{C}_5\text{H}_5)\text{Cl}]_2 (1 \text{ mol\%})} \text{Ph}-\text{CH}_2-\text{CH(COO}_2\text{Me)}-\text{CH}_2-\text{COO}_2\text{Me}$ 85%, er = 96:4</p> <p>Optimisation of the above reaction is investigated.</p>
A. Saitoh, T. Morimoto, K. Achiwa <i>Tetrahedron: Asymmetry</i> 1997, 8, 3567.		

(1 <i>S,2S,3R</i>)-1- <i>N,N</i> -Dimethylaminopropyl-2-isopropyl-5-methylcyclohexan-1-ol		Ligand
A new δ -aminoalcohol for the enantioselective addition of dialkylzincs to aldehydes.		<p style="text-align: center;">$\text{Ph-C}_6\text{H}_4-\text{CHO} \xrightarrow[\text{PhMe, -20} \rightarrow \text{rt, 2 d}]{\text{A (3 mol\%)}, \text{Et}_2\text{Zn (1.5 eq)}} \text{Ph-C}_6\text{H}_4-\text{CH(OH)-CH}_2\text{CH}_3$ 99%, er = 95:5</p> <p>8 examples (yields 65-99%, %ee 22, 70-89%).</p>

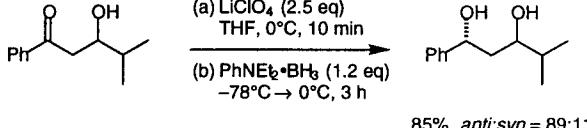
4- <i>tert</i> -Butylcalix[4]arene		Ligand
The title reagent (A) activates the enantioselective allylation of aldehydes catalysed by a new zirconium-BINOL Lewis acid system. The incorporation of A allows the use of less than 2% of the catalyst compared to the previously reported value of 10-20%.		<p style="text-align: center;">$n\text{-C}_7\text{H}_{15}\text{CHO} + \text{CH}_2=\text{CH-SnBu}_3 \xrightarrow[\text{Et}_2\text{O, -20}^\circ\text{C, 60 h}]{(\text{S})\text{-BINOL (2 mol\%)}, \text{ZrCl}_4(\text{thf})_2 (2 \text{ mol\%}), \text{A (0.5 mol\%)}} n\text{-C}_7\text{H}_{15}-\text{CH(OH)-CH=CH}_2$ 57%, er = 98:2</p> <p>10 examples (yields 30-85%, %ee 62-96%).</p>

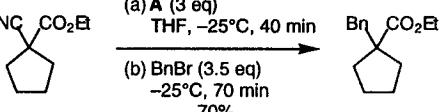
(4 <i>R</i>)-2-[2-(Diphenylphosphino)phenyl]-4-isopropyl-1,3-oxazoline		Ligand
The iridium (I) complex formed from $[\text{Ir}(\text{COD})\text{Cl}]_2$ and the title ligand catalyses the asymmetric substitution reaction of monoaryl allylic acetates with malonate nucleophiles.		<p style="text-align: center;">$\text{R-C}_6\text{H}_4-\text{CH}_2-\text{CH(OAc)-CH}_2 + \text{NaCH(CO}_2\text{Me)}_2 \xrightarrow[\text{THF, } \Delta, 1 \text{ d}]{[\text{Ir}(\text{COD})\text{Cl}]_2 (2 \text{ mol\%}), \text{A (4 mol\%)}} \text{R-C}_6\text{H}_4-\text{CH}_2-\text{CH(CO}_2\text{Me)}-\text{CH}_2-\text{CO}_2\text{Me}$</p> <p>2 examples (illustrated). Minimal quantities of α-substitution products are obtained (<5%).</p> <p>R = H, 95%, er = 96:4 R = OMe, 97%, er = 98:2</p>

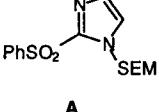
tert-Butylsulfonyl (Bus)			Protecting Group
<p><i>tert</i>-Butylsulfonamides (A) are efficiently prepared in two steps from primary and secondary amines. The Bus derivatives are stable to strong base and metallation conditions and are cleaved to the parent amines by mild acidic solvolysis.</p> <p>P. Sun, S. M. Weinreb <i>J. Org. Chem.</i> 1997, 62, 8604.</p>	<p>A</p>	<p>(a) <i>t</i>-BuSOCl (2 eq), Et₃N (8 eq) CH₂Cl₂, 0°C, 1 h (b) <i>m</i>-CPBA (1.3 eq) CH₂Cl₂, rt, 45 min, 84%</p> <p>TFOH (6 eq) PhOMe (12 eq) CH₂Cl₂, 0°C, 1 h 86%</p> <p>R = Bus R = H</p>	<p>7 examples of the formation and cleavage of <i>tert</i>-butylsulfonamides are reported (yields 72-97% and 58-100% respectively).</p>
Thallium Hydroxide			Reagent
<p>The title reagent mediates the unsymmetrical Suzuki type coupling of hindered aryl systems at ambient temperature.</p> <p>J. C. Anderson, H. Namli, C. A. Roberts <i>Tetrahedron</i>, 1997, 53, 15123.</p>	<p>A</p>	<p>Pd(PPh₃)₄ (2 mol%) 10% TIOH_(aq) (1.5 eq) DMA, rt, 12 h 92%</p>	<p>11 examples (yields 10-92%). Many different conditions were investigated to arrive at the illustrated optimised system.</p> <p>DMA = Dimethylacetamide</p>
η^3-2-Methylcrotyltitanocene			Reagent
<p>η^3-2-Methylcrotyltitanocene (A) reacts with aldehydes to afford <i>anti</i> homoallylic alcohols when the reaction is carried out in THF and preferentially <i>syn</i> products when the solvent is HMPA-THF (3:1).</p> <p>J. Szymoniak, N. Thery and C. Moïse <i>Synlett</i>, 1997, 1239.</p>	<p>A</p>	<p>Cp₂TiCl₂ i-PrMgCl (2 eq) THF, rt, 30 min [A] sol, -30°C, 1 h</p>	<p>sol = THF, 88%, <i>syn:anti</i> = 5: 95 sol = HMPA-THF (3:1), 84%, <i>syn:anti</i> = 81:19</p> <p>5 examples in THF (yields 80-91%, 50:50 \leq <i>anti:syn</i> \leq 95:5); 5 examples in HMPA-THF (yields 82-91%, 55:45 \leq <i>syn:anti</i> \leq 88:12).</p>
Zinc / Nickel(II) Chloride Hexahydrate			Reagent
<p>The title pair of reagents effect the reduction of azides (alkyl, aryl or acyl) to afford the corresponding amines or amides.</p> <p>A. Boruah, M. Baruah, D. Prajapati, J. S. Sandu <i>Synlett</i> 1997, 1253.</p>	<p>A B</p>	<p>A (5 eq), B (7.5 eq) THF, rt, 2.5 h 78%</p>	<p>15 examples (yields 65-92%). Nitro, hydroxyl and olefin functionality are all tolerated using the described conditions.</p>
N-Bromosuccinimide (NBS)			Reagent
<p>A range of substituted phenols and naphthols were selectively monobrominated by employing NBS (A). Using acetonitrile as the solvent gave predominantly <i>para</i> substitution whereas using carbon disulfide gave predominantly <i>ortho</i> substitution.</p> <p>N. C. Carreño, J. L. G. Ruano, G. Sanz, M. A. Toledo, N. Urbano <i>Synlett</i> 1997, 1241.</p>	<p>A</p>	<p>sol = CH₃CN, 77% sol = CS₂, 5%</p>	<p>8 examples of monobromination in various solvents (yields 59-100%).</p>

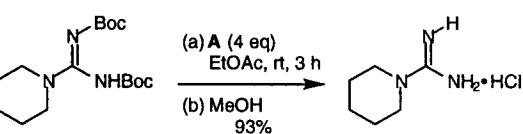
Trifluoriodomethane			Reagent
The title reagent iodinates α' -silylated ketone enolates with high diastereoselectivity. <i>D. Enders, D. Klein, G. Raabe, J. Rumsink Synlett 1997, 1271.</i>	<chem>CF3I</chem> A		
D. Enders, D. Klein, G. Raabe, J. Rumsink <i>Synlett</i> 1997, 1271.			8 examples (yields 47-89%, %de ≥ 98%).
Tellurium			Reagent
Sulfonate esters of aziridinemethanols are converted to allylic amines by treatment with telluride ion obtained by reduction of elemental tellurium. <i>A. S. Pepito, D. C. Dittmer J. Org. Chem. 1997, 62, 7920.</i>	<chem>Te</chem> A		
A. S. Pepito, D. C. Dittmer <i>J. Org. Chem.</i> 1997, 62, 7920.			4 examples (yields 30-91%). Activation of the aziridine by an electron withdrawing substituent on nitrogen was found to be unnecessary and even detrimental.
(4<i>R</i>)-4-Phenyl-2-[2-[(tolylsulfonyl)amino]phenyl]-1,3-oxazoline / Methylmagnesium iodide			Reagent
Magnesium complexes derived from the title reagents A and B are efficient Lewis acid catalysts for the Diels-Alder reaction of two dienophiles and cyclopentadiene. <i>T. Ichiyanagi, M. Shimizu, T. Fujisawa <i>J. Org. Chem.</i> 1997, 62, 7937.</i>	<chem>TsHNc1ccccc1C2=NOCC2Ph</chem> A <chem>MeMgI</chem> B		
T. Ichiyanagi, M. Shimizu, T. Fujisawa <i>J. Org. Chem.</i> 1997, 62, 7937.			Several chiral oxazolines were investigated. A was found to give the greatest enantioselectivity for the example shown, and for R=H (yield 81%, er = 96:4).
Tris(triphenylphosphine)copper(I) Fluoride			Reagent
Reduction of α , β -unsaturated ketones with HSiPhMe2 in the presence of A proceeds in a 1,4-selective fashion to give the corresponding saturated ketones in excellent yields. <i>A. Mori, A. Fujita, Y. Nishihara, T. Hiyama <i>Chem. Commun.</i> 1997, 2159.</i>	<chem>CuF(PPh3)3*2(EtOH)</chem> A		
A. Mori, A. Fujita, Y. Nishihara, T. Hiyama <i>Chem. Commun.</i> 1997, 2159.			5 examples (yields 85 ->95%). Sterically congested enones were recovered unchanged. DMA = <i>N</i> , <i>N</i> -dimethylacetamide
Bis(<i>p</i>-nitrophenyl)phosphorazidate			Reagent
Alkyl and glycosyl azides are prepared directly and in high yield via stereoselective conversion of the corresponding alcohols and hexapyranoses using the title reagent. <i>M. Mizuno, T. Shioiri <i>Chem. Commun.</i> 1997, 2165.</i>	<chem>(p-NO2C6H4O)2P(=O)(N3)2</chem> A		
M. Mizuno, T. Shioiri <i>Chem. Commun.</i> 1997, 2165.			18 examples (yields 30, 68-95%) and 4 examples of the preparation of glycosyl azides (yields 34, 75-85%).

Tetraethylammonium Trichloride			Reagent
The title reagent effects the α -chlorination of alkenes, alkynes, ketones and acetals. A also oxidises secondary and benzylic alcohols to the corresponding carbonyl compounds.	$\text{Et}_4\text{N}^+(\text{ClO}_4)^-$ A	$\text{CH}_3(\text{CH}_2)_9\text{CH}_2\text{CHO}$ (a) A, CH_3CN (0.3 M) pyridine (4 eq) $\xrightarrow{\quad}$ $\text{CH}_3(\text{CH}_2)_9\text{CCl}_2\text{CHO}$ $\text{CH}_3(\text{CH}_2)_5\text{CHOHCH}_2\text{OH}$ (b) DABCO (1 eq) $\xrightarrow{\quad}$ $\text{CH}_3(\text{CH}_2)_5\text{C(O)CH}_2\text{OH}$ 22 examples of chlorination (yields 29, 56, 76-100%) and 7 examples of oxidation (yields 56-100%).	83% 100%
T. Schlama, K. Gabriel, V. Gouverneur, C. Mioskowski <i>Angew. Chem. Int. Ed. Engl.</i> 1997, 36, 2342.			

Lithium Perchlorate			Reagent
Reduction of β -hydroxyketones by amineboranes in the presence of the title reagent affords the corresponding <i>anti</i> ,1,3-diols with good diastereoselectivity.	LiClO_4 A		85%, <i>anti:syn</i> = 89:11 7 examples (yields 84-88%, %de (<i>anti</i>) = 8, 44-96%).
C. Narayana, M. R. Reddy, M. Hair, G. W. Kabalka <i>Tetrahedron Lett.</i> 1997, 38, 7705.			

Lithium Naphthalenide			Reagent
The title reagent enables the reductive alkylation of α -cyanoesters.	$\left[\begin{array}{c} \text{C}_6\text{H}_5 \\ \\ \text{C}_6\text{H}_4 \\ \\ \text{C}_6\text{H}_5 \end{array} \right]^- \text{Li}^+$ A		70% 12 examples (yields 67-92%).
K.-S. Shia, N.-Y. Chang, J. Yip, H.-J. Liu <i>Tetrahedron Lett.</i> 1997, 38, 7713.			

1-[2'-(Trimethylsilyl)ethoxymethyl]-2-phenylsulfonylimidazole			Reagent
The title reagent provides a versatile platform for elaboration of the imidazole nucleus.			6 examples of C4 metallation followed by addition to various electrophiles (yields 60-95%). The orthogonality of protecting groups at N1 and C2 allows for further regioselective elaboration. PPTS (1 eq) $\xrightarrow[\text{MeOH, 1 d}]{\quad}$ R = SEM, R' = THP, 70% $\xrightarrow{\quad}$ R = R' = H
J. G. Phillips, L. Fadnis, D. R. Williams <i>Tetrahedron Lett.</i> 1997, 38, 7835.			

Tin(IV) Chloride			Reagent
The title reagent effects the total deprotection of bis-Boc substituted guanidine derivatives under mild conditions.	SnCl_4 A		93% 11 examples (yields 81-100%). The salts generated from this method are typically of high purity and easily recrystallised.
H. Miel, S. Rault <i>Tetrahedron Lett.</i> 1997, 38, 7865.			

Sodium Carbonate			Reagent
Treatment of a mixture of an α -bromoketone oxime and an isocyanide with sodium carbonate (A) results in the direct formation of the corresponding 5-aminoisoxazole.	Na_2CO_3 A		
C. Buron, L. E. Kaïm, A. Uslu <i>Tetrahedron Lett.</i> 1997, 38, 8027.			8 examples (yields 40-93%). Best yields are obtained from electron deficient oximes
Magnesium / Bismuth(III) Chloride			Reagent
The title pair of reagents mediate the allylation of aldehydes by allyl bromide in aqueous media.	Mg A BiCl_3 B		
M. Wada, T. Fukuma, M. Morioka, T. Takahashi, N. Miyoshi <i>Tetrahedron Lett.</i> 1997, 38, 8045.			11 examples (yields 64-90%). Commercially available aqueous aldehydes could also be successfully allylated.
Iodine Monobromide			Reagent
The title reagent (A) converts both 'armed' and 'disarmed' thioglycosides into glycosyl bromides. A also effects the glycosidation of sugar alcohols by 'disarmed' glycosyl bromides and thioglycosides.	IBr A		
K. P. R. Kartha, R. A. Field <i>Tetrahedron Lett.</i> 1997, 38, 8233.			11 examples of glycosyl halide formation (yields 100%); 4 examples of glycosidation (yields 35-73%).
Tetra-n-propylammonium perruthenate (TPAP)			Reagent
The title reagent catalyses the oxidation of primary and secondary alcohols to the corresponding aldehydes and ketones under very mild aerobic conditions.	$\text{Pr}_4\text{N}^+\text{RuO}_4^-$ A		
R. Lenz, S. Ley <i>J. Chem. Soc., Perkin Trans. 1</i> 1997, 3291.			7 examples (yields 80-99%).