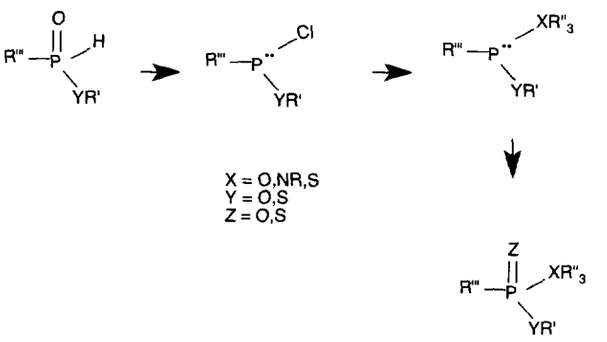
PAF synthesis

Platelet-activating factor (PAF) **VII** is an ether phospholipid that is involved in modulation of a wide range of pharmacological processes, including platelet aggregation and smooth muscle contraction. Erukulla, R.K., Byun, H-S. and Bittman, R. [*J. Org. Chem.* (1995) 60, 7706–7708] describe a three-step synthesis of chiral PAF and related 1-ether 2-acyl-*sn*-glycero-3-phosphocholines from commercially available glycidols without the need for glycerol protecting groups (Scheme 4).

Scheme 6



Asymmetric synthesis of pyrrolidinoisoquinoline derivatives

The interesting biological activity of pyrrolidinoisoquinoline alkaloids has prompted a desire to develop general approaches to the synthesis of these types of alkaloids. Lee, Y.S. and coworkers [*J. Org. Chem.* (1995) 60, 7149–7152] describe an asymmetric synthesis of both enantiomers of the pyrrolidinoisoquinoline derivatives **VIII** and **IX** from (L)-malic acid and (L)-tartaric acid using a diastereoselective *N*-acyliminium ion cyclization (Scheme 5).

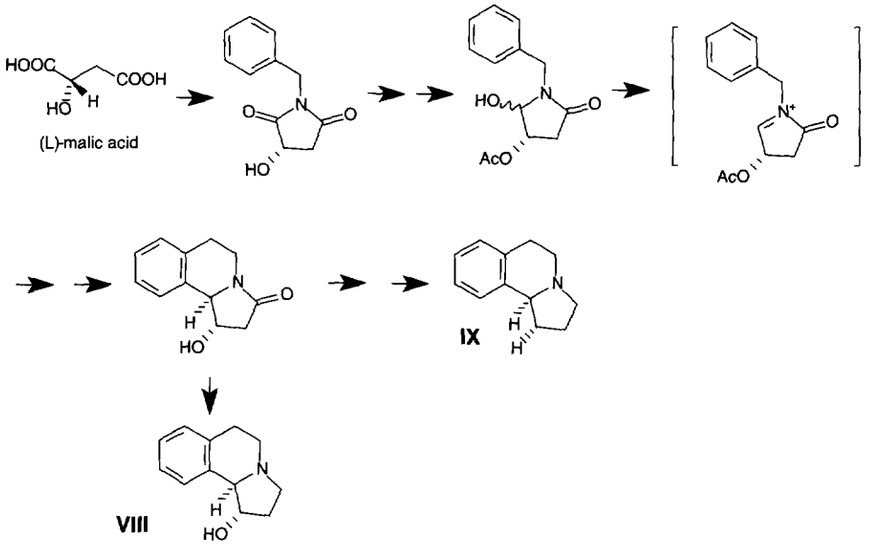
Synthesis of phosphonate and thiophosphonate esters and amides

The preparation of phosphonates and related derivatives is important for the synthesis of a plethora of biologically active molecules, including nucleoside analogues and lipids. Fernandez, M. de F. and coworkers [*J. Org. Chem.* (1995) 60, 7390–7391] describe a new method for the production of phosphonates, phosphonamides, thiophosphonates and the more inaccessible thiophosphonamides and dithiophosphonates from H-phophinates that uses a single-pot activation-coupling-oxidation protocol (Scheme 6). The method utilizes dichlorotriphenylphosphorane as an activating reagent to generate the phosphonochlorite.

Preparation of 4-substituted 2-phenyloxazole-5-carboxylates

Cynkowski, T. and coworkers [*J. Chem. Soc., Chem. Commun.* (1995) 22, 2335–2336] report the serendipitous discovery that *N*-benzoyl amino acids **X** react with excess oxalyl chloride at room temperature to yield 4-substituted 2-phenoxazole-5-carboxylates **XI** following treatment with alcohols in the presence of triethylamine (Scheme 7). This may have application in the synthesis of a variety of potential pharmaceutical agents.

Scheme 5



Scheme 7