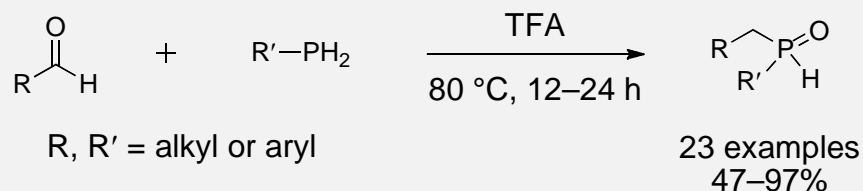


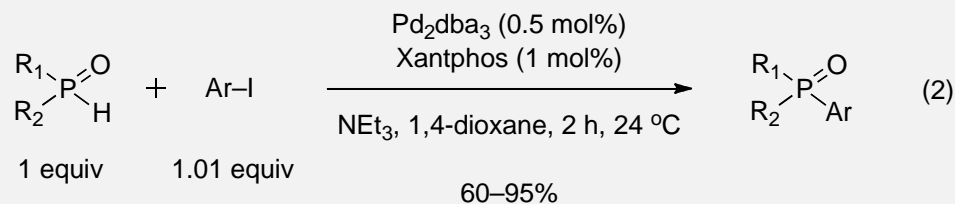
Development of New and General Methods for Phosphine Synthesis.

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We have developed a new and general method for the one-step synthesis of secondary phosphine oxides from simple carbonyl compounds and primary phosphines.



We have developed a highly active catalyst system for the P-arylation of secondary phosphine oxides to form tertiary phosphine oxides.



Because tertiary phosphine oxides can be reduced with retention or inversion of stereochemistry, we believe this method may constitute a general route to P-chiral tertiary phosphines.