

## Asymmetric Di(tertiary Phosphines)

Recent studies in our group have shown that the 2-anisyl group can be selectively cleaved from the asymmetric di(tertiary phosphine) 2-C<sub>6</sub>H<sub>4</sub>(PMePh)(PMeAr), **1** (where Ar = 2-anisyl = 2-C<sub>6</sub>H<sub>4</sub>OCH<sub>3</sub>) to give secondary phosphine 2-C<sub>6</sub>H<sub>4</sub>(PMePh)(PHMe), **2**. The latter can be coupled to give a single diastereomer of the tetra(tertiary phosphine) 1,2-C<sub>6</sub>H<sub>4</sub>[PMe(2-C<sub>6</sub>H<sub>4</sub>PMePh)]<sub>2</sub>, **3**. The project will involve the separation of the two diastereomers of **1**, followed by their resolution *via* the method of metal complexation. Cleavage of the 2-anisyl group from an optically active antipode of **1** should provide a viable synthetic route to an enantiomerically pure form of **3**. Gold(I) complexes containing tetra(tertiary phosphines) exhibit potent antitumour properties and ruthenium(II) complexes containing optically pure analogues of these ligands are potential catalysts in the synthesis of chiral drug precursors.

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