SUPPORTING INFORMATION

A Soluble-Polymer System for the Asymmetric Transfer Hydrogenation of Ketones.

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¹H-NMR of new compounds lacking elemental analyses.

(1*S*,2*R*)-2-(4-Bromobenzylamino)-1-phenyl-1-[(*t*-butyldimethylsilyl)oxy]-propane **7**. S9

(1*S*,2*R*)-2-(4'-Anisylbenzylamino)-1-phenyl-1-[(*t*-butyldimethylsilyl)oxy]-propane **11**. S10

(1*R*,2*S*)-2-(4'-Anisylbenzylamino)-1-phenyl-1-propanol **12**. S10

General experimental conditions.

All reactions, unless otherwise stated, were run under an atmosphere of nitrogen in flame or oven dried glassware (round bottomed flasks or Schlenk tubes). Room temperature refers to ambient room temperature (20-22 °C), 0 °C refers to an ice slush bath and -78°C refer to a dry-ice acetone bath. Heated experiments were conducted using thermostatically controlled oil baths. Reactions were monitored by Thin Layer Chromatography (TLC) using aluminium backed silica gel 60 (F₂₅₄) plates, visualised using UV_{254 nm} and PMA, potassium permanganate or ninhydrin dips as appropriate. Flash column chromatography was carried out routinely using 60 Å silica gel (Merck). NMR spectra were recorded on 300MHz or 400 MHz spectrometers. Chemical shifts are reported in δ units, parts per million downfield from (CH₃)₄Si. Coupling constants (J) are measured in Hertz. IR spectra were recorded on an FTIR instrument. Mass spectra were recorded on a CI/EI mode mass spectrometer. Determination of enantiomeric excesses was either by HPLC analysis (Chiralcel OD 4.6 x 250 mm column) or GC analysis (BETA DexTM 120 fused silica capillary column 30m x 0.25 mm x 0.25 mm film thickness). Elemental analyses were performed by Warwick Analytical Services. Melting points are uncorrected. Optical rotations were measured at the Na-D line on a polarimeter. Commercially available reagents were used without purification. All anhydrous solvents were used as supplied.

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Suzuki coupling between bromophenyl derivatised HEMA/MMA **6** and (1*S*,2*R*)-2-(bromobenzylamino)-1-phenyl-[(*t*-butyldimethylsilyl)oxy]-propane **7** to give polymer product **9**.

For information, a ^1H -NMR spectrum of a mixture of the bromophenylpolymer and 4-bromobenzyl(TBS)norephedrine is shown below.

It can be seen the two spectra are markedly different with much sharper ephedrine peaks in the mixed spectra. This confirms that the product is not merely the recovered unreacted starting materials. The NMR of the polymer product can be compared to analogous low molecular weight species and certain signals can be observed in both NMR.

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Norephedrine functionalised MeO-PEG5000 **15**.

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Synthesis of Tosylated PEG ethyl ester/HEMA Copolymer.

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