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Direct Chromatographic Resolution of P-Chiral Organophosphorus Compounds at Analytical and Preparative Levels

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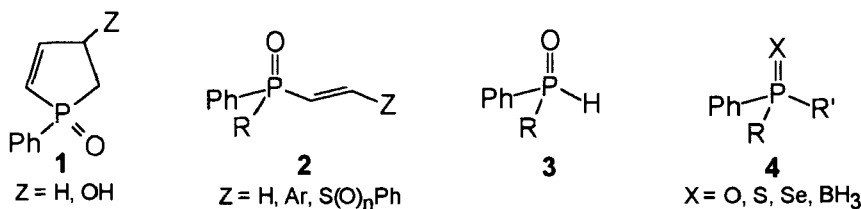
DIRECT CHROMATOGRAPHIC RESOLUTION OF P-CHIRAL ORGANOPHOSPHORUS COMPOUNDS AT ANALYTICAL AND PREPARATIVE LEVELS.

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High-performance liquid chromatography utilizing chiral stationary phases (CSPs) is well established as a very simple and efficient method for obtaining discrete amounts of optically active compounds with high e.e., as well as for determining their enantiomeric composition. We wish to demonstrate in the present work that a totally synthetic brush-type π -acidic CSP based on a bis(*N,N'*-3,5-dinitrobenzoyl) derivative of (*R,R*)- or (*S,S*)-*trans*-1,2-diaminocyclohexane as selector can be used successfully to resolve variety of chiral organophosphorus compounds containing stereogenic centers at phosphorus.



Ample examples of resolutions include: a) resolutions of tertiary vinyl phosphine oxides including cyclic and terminally substituted ones of type 1 and 2, b) preparative resolutions of secondary phosphine oxides 3, c) miscellaneous P-chiral thiophosphoryl derivatives, and d) studies of the influence of structural modifications of the analyte on the enantioselectivity of the resolution process in the model series of phosphine oxides, sulfides, selenides and boranes of type 4.