Synthesis of a Stationary Phase with a Dynamically Tunable Polarity and its Evaluation as a Potential Alternative to Mobile-Phase Gradient Elution HPLC

Traditional liquid chromatography achieves separation of complex mixtures by altering the polarity of the mobile phase. A novel “polarity-active” stationary phase based on the immobilization of spiropyrans on to a solid support will be synthesized and evaluated for use as potential alternative to mobile-phase gradient elution HPLC. Such a system would not only be environmentally benign, but it is likely to provide a novel mechanism for separation and purification of complex mixtures.