

Abstract

Fluorinated stationary phase in Rtx-200MS column have been characterized by determination of system constants of Abraham equation. Retention on this phase is driven by dispersive and orientation/induction forces. Significant interaction contribution of lone pair electrons or π -electrons provides unique selectivity for analytes with excess of electron density. Unusual behavior of this phase have been determined by study of separation mechanism of polar and nonpolar analytes, in comparison of their separation on polar and nonpolar phases. This behavior is due to medium polarity of the phase (system constant s), which is not so pronounced to cancel separation of nonpolar analytes due to induction forces. In some cases contribution of lone pair electrons or π -electrons can contribute to this separations.

Key words

fluorinated stationary phase Rtx-200MS, inverse gas chromatography, LFER method, Abraham's equation