



LETTER TO THE EDITORS

Dear Sir,

In a paper on "The Gas-liquid Chromatographic Stationary Phase Properties of Liquid organic Salts: Anomalous Selectivity Variation when Employing the Rohrschneider-McReynolds System" by R. Morales, C. Blanco and K. G. Furton, *Talanta*, 1993, **40**, 1541, the authors summarize that several problems arose when attempting to characterize these polar organic salts employing the Rohrschneider-McReynolds System.

The first problem was a decrease of the McReynolds constants with increasing carbon number of the *n*-alylsulfonate ion although "the true selectivity of the different stationary phases remained constant". However, the change of a substance specific retention index between two stationary phases indicates a change of the selectivity of the phase: The index difference of benzene decreases for instance from 345 for the methyl- to 249 for the pentylsulfonate while the retention ratio of benzene relative to nonane changes from 1.63 to 1.01 and the retention ratio of nitromethane relative to 2-pentanone changes from 3.38 to 2.78. The two phases show different selectivities although the specific retention volume of benzene remains constant.

Unfortunately the authors did not specify the retention data of the nonpolar McReynolds test probes 2-octyne and *cis*-hydrindane. The specific retention volume of these substances will increase similar to the *n*-alkanes, also showing different selectivities of the compared phases.

The second problem was that the specific retention volume of pyridine showed large erratic variations and, in some cases, was not recovered from the columns. These results illustrate "that McReynolds constants can be an unreliable measure of the selective solute-stationary phase interactions for stationary phases".¹ However, the chemical reaction of a test probe with a stationary phase indicates the chemical reactivity of the stationary phase examined. Analytical chemists should be warned when using these organic salts phases, whose instability was detected with McReynolds test probes.

L. Rohrschneider
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REFERENCE

- 1 R. Morales, C. Blanco and K. G. Furton, *Talanta*, 1993, **40**, 1541