

拟多维离子交换色谱测定原油中的单双石油磺酸盐

赵亮, 刘霞, 蒋生祥*

中国科学院兰州化学物理研究所 甘肃省天然药物重点实验室, 兰州, 730000

E-mail: zhaol@lzb.ac.cn

原油中石油磺酸盐的测定是一大难点。拟多维离子交换高效液相色谱方法能够对大量原油中微量石油磺酸盐在线纯化和测定, 使石油磺酸盐和原油干扰物完全分离, 具有纯化效率高、抗干扰强的特点, 可以对大量原油中微量单石油磺酸盐和双石油磺酸盐同时测定。该方法简单、准确, 可应用于石油磺酸盐的驱油机理研究和现场驱油效果评价之中。

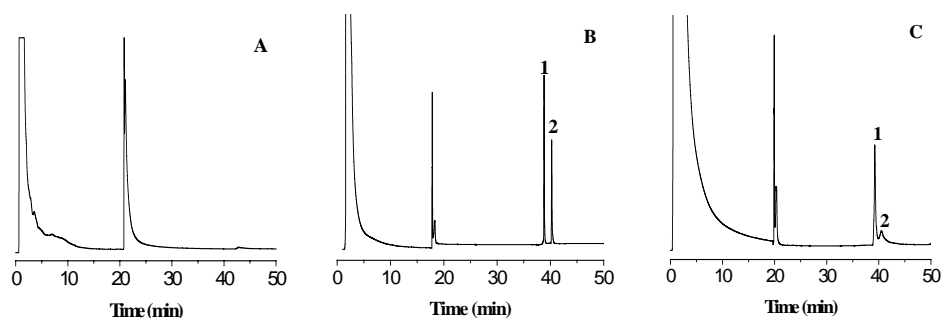


Fig.1. Chromatogram of blank crude oil, crude oil spiked with naphthalene sulfonate, and petroleum sulfonates in crude oil samples. A. Blank crude oil; B. Spiked sample of naphthalene sulfonate, peak 1, sodium 2-naphthalene sulfonate, peak 2, sodium 1,5-naphthalene disulfonate; C. Petroleum sulfonates in crude oil sample, peak 1, PMS, peak 2, PDS

关键词: 拟多维高效液相色谱, 离子交换色谱, 石油磺酸盐测定, 原油

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Determination of Petroleum Monosulfonates and Petroleum Disulfonates in Crude Oil by Pseudo-multidimensional Anion-exchange Chromatography

Liang Zhao, Xia Liu, Sheng-Xiang Jiang *

Key Laboratory for Natural Medicine of Gansu Province, Lanzhou Institute of Chemical Physics, the Chinese Academy of Sciences 730000, China

A method was developed to analyse Petroleum monosulfonates and disulfonates in crude oil by pseudo-multidimensional ion-exchange chromatography. The analytical procedure consisted of on-line purification and anion-exchange separation using a SAX column, which was connected with a six-port switching valve. Crude oil sample was simply diluted with the dichloromethane/methanol (60/40) to inject the HPLC system. Detection of petroleum sulfonates was accurate and repeatable. This method has been successfully applied to determine of PMS and PDS in crude oil samples.