REGIS TECHNOLOGIES, INC.

NOTE NO. 37 - **March 1 1991**

COMPARISON OF HPLC CHROMATOGRAMS OBTAINED USING ISRP VS. CONVENTIONAL C18 SOLID PHASE EXTRACTION METHODS FOR SERUM SAMPLE CLEAN-UP OF PHENELZINE

Analytes: Phenelzine (1.0 μg/ml) spiked in human serum

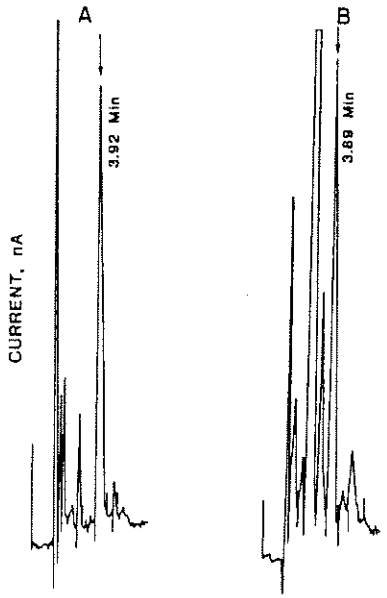
Chromatogram A: SPE on 40 micron GFF-ISRP
Chromatogram B: SPE on conventional 40 micron C18

Solid Phase Extraction Procedure: 200 mg of 40 micron GFF-ISRP material was packed into 1.5 ml solid phase reservoirs. Column was conditioned with 5 ml each of acetonitrile, water, and 0.1M phosphate buffer, ph 8. A 1.0 ml aliquot of serum was diluted with an equal volume of the phosphate buffer, passed slowly through the solid phase material, and washed with 2.0 ml of buffer. Analytes were eluted with 10.0 ml of 0.05M NaH_2PO_4, pH 2.5. To compare the ISRP-SPE procedure to a conventional SPE column, a C18 (100 mg) SPE column was employed. The conditioning and extraction steps were identical to those used with the ISRP column except that the eluting solvent consisted of 20/80 acetonitrile/0.05M NaH_2P0_4, pH 2.5.

Analytical Column: 5 micron 10 cm Phenyl with C18 guard column

Mobile Phase: 20% Acetonitrile, 80% 0.05M NaH_2PO_4 (pH 2.5) with 0.02M Heptane Sulfonic Acid Sodium Salt

Comments: Using electrochemical detection, GFF-ISRP solid phase extraction produced a cleaner chromatogram for phenelzine than did C18 SPE extraction.



Detection: Electrochemical, +1300 mv vs Ag/AgCl

Flow Rate: 1.0 ml/min

Sample Size: 20 microliters

*Based on an article which appeared in the J. Liq. Chromatogr., 13(19), 3861-3889, (1990).

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