METHOD DEVELOPMENT BY HPLC FOR SEPARATION OF VARIOUS HYDROCARBON GROUPS IN COAL SAMPLES FROM BATU ARANG, SELANGOR.

By

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Abstract

A preliminary work involving method development for *normal* stationary phase (silica) permits the high-performance liquid chromatographic separation of aliphatic and polyaromatic hydrocarbon (PAHs) classes.

The Soxhlet extraction method was applied on the coal rock samples and normal phase (silica) short column clean-up separation from highly polymeric material in the coal extract.

Method developed on analytical and preparative normal phase silica HPLC columns were to fractionate coal rock extracts, isocratic elution of hexane: ethyl acetate (95:5, V:V) was found to be quite a good mobile phase. An alternative fractionation method, preparative thin layer chromatography (TLC), was also investigated to separate the various organic groups in the organic extract from coal rocks from Batu Arang, Selangor.

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Abbreviation

Appd.	=	Appendix
C	=	Carbon
e.g.	=	example
Fig.	=	Figure
GC	=	Gas chromatography
GC-MS	=	Gas chromatography - mass spectrometry
H	=	Hydrogen
HC	=	Hydrocarbon
HPLC	=	High-performance liquid chromatography
ID	=	Internal diameter
LSC	=	Liquid-solid chromatography
min.	=	minute
n-	=	Normal-
PAHs	=	polyaromatic hydrocarbon
Prep.	=	Preparative
RI	=	Refractive index
r.i.u.	=	Refractive index units
SFC	=	supercritical fluid chromatography
TLC	=	Thin layer chromatography
tr or t_R	=	Retention time
UV	=	Ultraviolet
V. or Vol	=	Volume