

Analytical conditions are:

Instrument: HP5970 MSD
 Column: 60m x 0.25mm ID, 0.25 micron film thickness, 5% phenylmethyl silicone column DB-5 (J&W) connected directly to the ion source
 Injector: automatic on-column
 Carrier Gas: helium
 Oven Conditions: 70°C for 1min
 70°C --> 300°C at 3°/min
 Data collection commences at 10 mins
 Mass Spectrometry
 Em Voltage 1500 - 1800V
 Electron Energy 70eV

Mass fragmentograms are presented for alkylbiphenyls, alkyl-naphthalenes, alkylfluorenes and alkylphenanthrenes from a comprehensive data base. Aromatic compounds provide valuable information concerning thermal maturity since they can be applied outside the dynamic range of saturate biomarker indicators and are particularly useful when conventional biomarkers are present in low amounts (Radke & Welte, 1983; Alexander et al, 1985). Maturity ratios are tabled below:

Aromatic Maturity Indicators

| Abbrev. | Definition | Range | |
|---------|--------------------------------------|-----------|---------|
| | | oil onset | wet gas |
| DNR 1 | (2,6DMN + 2,7DMN)/1,5DMN | 1.5 | 10 |
| DNR 2 | 2,7DMN/1,8DMN | 50 | 2500 |
| DNR 5 | 1,6DMN/1,8DMN | 50 | >3000 |
| DNR 6 | (2,6DMN + 2,7DMN)/(1,4DMN + 2,3 DMN) | 0.8 | 2 |
| TNR 1 | (1,4,6TMN + 1,3,5TMN)/2,3,6TMN | 0.5 | 4 |
| MPR 1 | (2MP + 3MP)/1MP | 1.5 | 3 |
| MPI 1 | 1.5 x (2MP + 3MP)/(PH + 1MP + 9MP) | 0.3 | 1 |
| MPI 2 | (3 x 2MP)/(PH + 1MP + 9MP) | 0.3 | 2 |
| Rc(a) | 0.6 (MPI-1) + 0.4 (for % Rm <1.35) | | |
| Rc(b) | -0.6 (MPI-1) + 2.3 (for % Rm ≥1.35) | | |

(from Radke et al, 1982; Radke & Welte, 1983; Alexander et al, 1985)