



ESDU SPA-M2-2

Advanced characterisation of asphaltenes using vibrational spectroscopy

Unamended
Issued 01 Jun 2007

Sub-Project A Advanced Characterisation of Asphaltenes using Vibrational Spectroscopy

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Date: 22th March 2007

Content

- Background of IR work on asphaltenes
- Infrared spectroscopic imaging
- Results
- Conclusion and Further Work

IR Spectroscopy on Asphaltenes

- Structural analysis started in the 1960s
- Role of structural properties on the solubility of asphaltenes in polar and nonpolar media [Buenrostro-Gonzalez E., et al, 2002]
- Characterised asphaltene Langmuir films at air-water interface [Zhang L.Y., et al, 2003]
- Thermal degradation of asphaltenes [Huang J., 2006]
- Models to predict physical and chemical parameters [Yuan H., et al, 2006]