Supporting information file

for

Synthesis and Application of New Amphiphilic Asphaltene Ionic Liquid Polymers to Demulsify Arabic Heavy Petroleum Crude Oil Emulsions

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The chemical structures of asphaltenes modification were elucidated using Fourier transform infrared analysis (Nicolet Magna 750 FTIR spectrometer using KBr, Newport, NJ, USA) in KBr.

The ^{1}HNMR and ^{13}CNMR spectra evaluated by using a 400 MHz Avance DRX-400 spectrometer (Bruker, Billerica, USA) in $CDCl_3$ solvent at 25 °C.

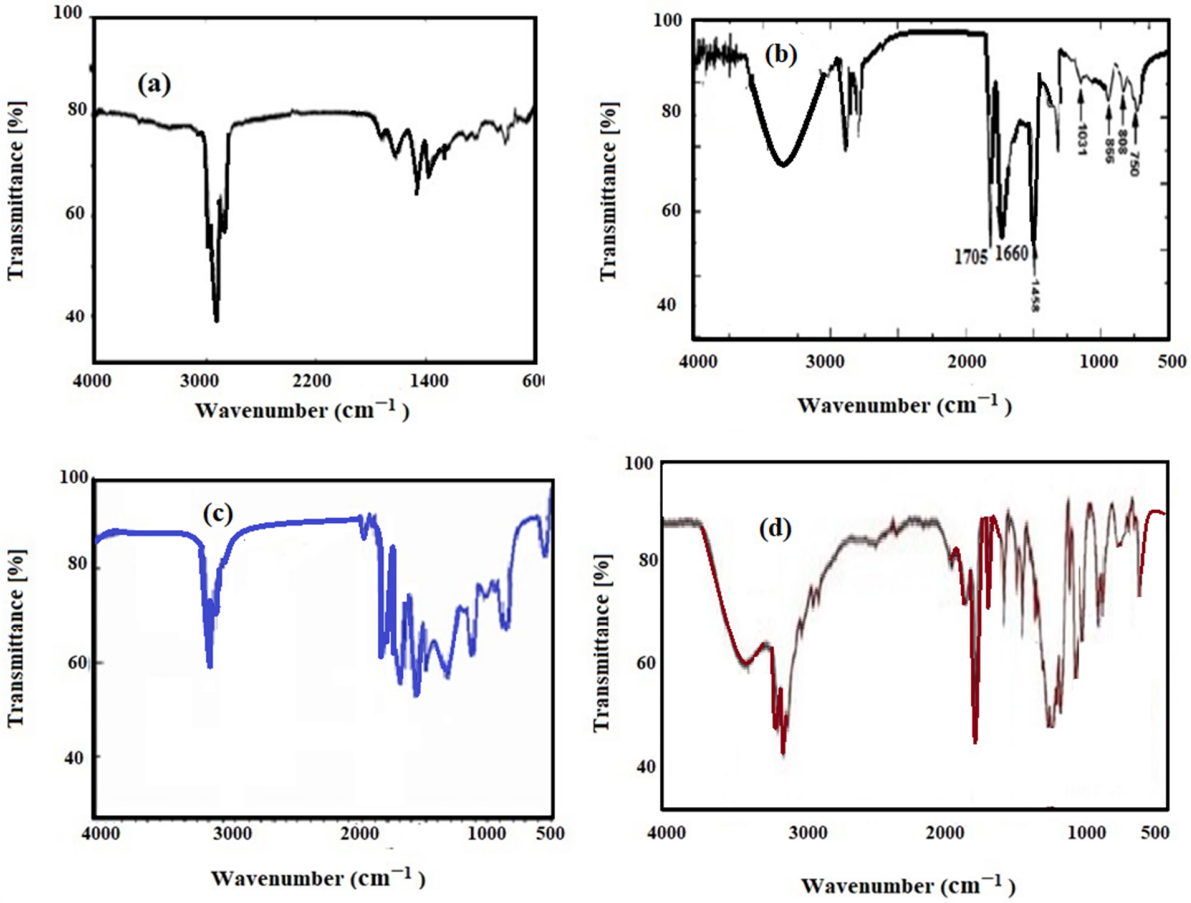

Fig. S1. FTIR spectra of a) asphaltene b) ACA, c) As-COCl, d) AMA.

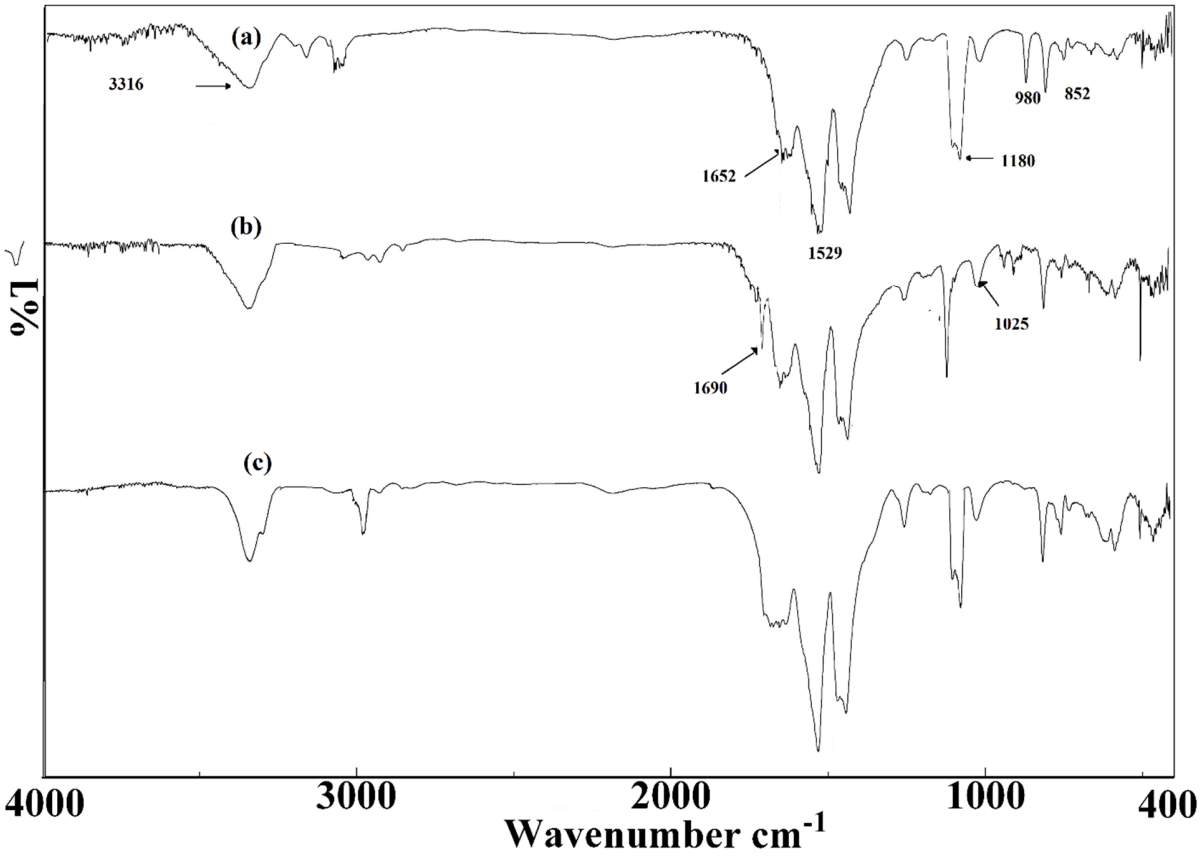

Fig. S2. FTIR spectra of a) QAP-Br ethoxylate, b) AIL and c) AIL-2.

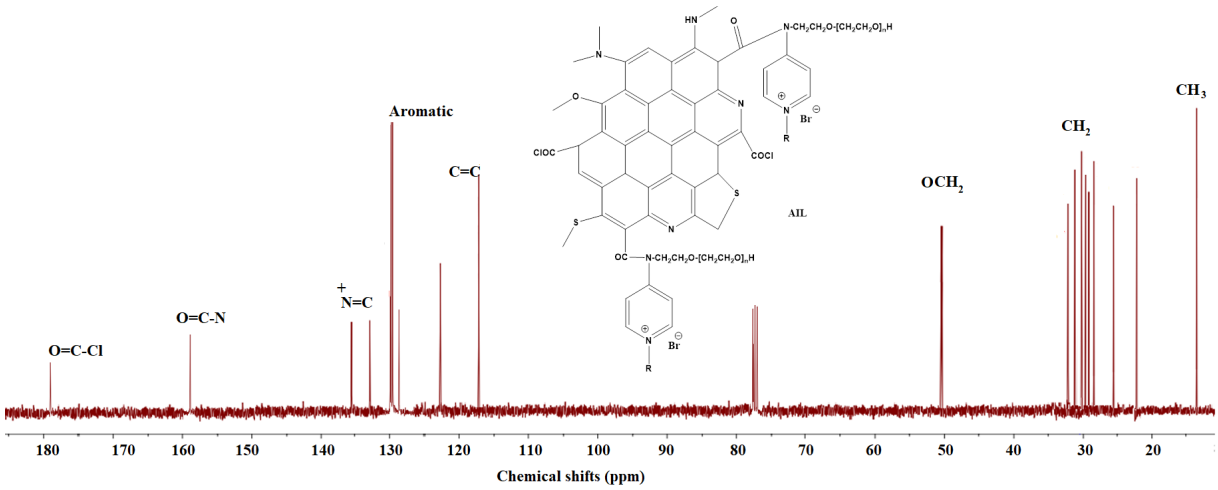

Fig. S3. ^{13}CNMR spectrum of AIL.