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## APPENDICES

APPENDIX A : List of the specific dissolution rate constant,  $k$ , for fractionated asphaltenes at different concentrations of amphiphile.

Concentration of Amphiphile (M)	The specific dissolution rate constant, $k(\text{min}^{-1})$	
	Asphaltenes fraction 1	Asphaltenes fraction 2
<b><u>DBSA</u></b>		
0.117	0.0346	0.0670
0.240	0.0728	0.1339
0.370	0.0943	0.1689
0.507	0.1195	0.2319
<b><u>NP</u></b>		
0.351	0.0054	0.0055
0.742	0.0844	0.0176
1.178	0.1761	0.0240
1.668	0.1782	0.0642

APPENDIX B : List of the specific dissolution rate constant,  $k$ , for fractionated asphaltenes at different flow rates of amphiphile-heptane solution.

Fractionated Asphaltenes in Amphiphile-heptane solution	$k$ ( $\text{min}^{-1}$ )		
	Flow rate of solutions (ml/min)		
	0.2	1.0	5.0
Asphaltene fraction 1-10 wt%DBSA	0.0626	0.1192	0.2919
Asphaltene fraction 2-10 wt%DBSA	0.0405	0.0642	0.1432
Asphaltene fraction 1-20 wt%NP	0.0727	0.1726	0.4151
Asphaltene fraction 2-20 wt%NP	0.0497	0.1782	0.3520

APPENDIX C : List of the specific dissolution rate constant,  $k$ , for fractionated asphaltenes at different temperatures of amphiphile-heptane solutions.

Fractionated Asphaltenes in Amphiphile-heptane solution	$k$ ( $\text{min}^{-1}$ )		
	Temperature of solutions ( $^{\circ}\text{C}$ )		
	10	22	58
Asphaltene fraction 1-10 wt%DBSA	0.0715	0.1199	0.3328
Asphaltene fraction 2-10 wt%DBSA	0.0141	0.0642	0.2509
Asphaltene fraction 1-20 wt%NP	0.1286	0.2319	0.2662
Asphaltene fraction 2-20 wt%NP	0.1012	0.1638	0.3065

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