

Supporting Information

Table 1S. Average molecular weight and a/m ratio of oil products.

Figure 1S. Composition of gaseous products after upgrading in SCW with 40 min and at 16:1 of water to oil ratio.

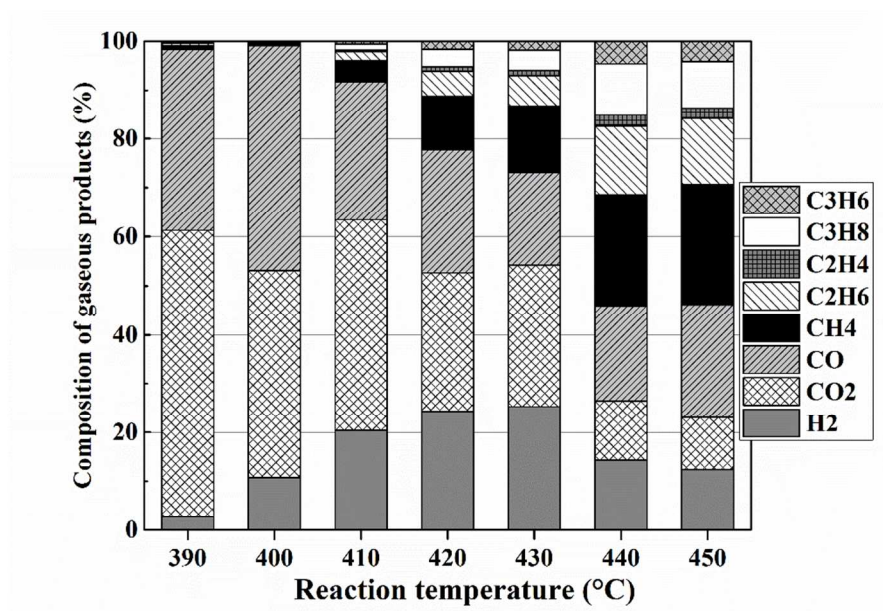
Figure 2S. DTG analysis of the toluene-soluble fractions obtained after the cracking in SCW.

Figure 3S. DSC thermograms of the (NT) non-treated, (C) centrifuged and (D) demulsified emulsions with a cooling/heating rate of 5 °C/min.

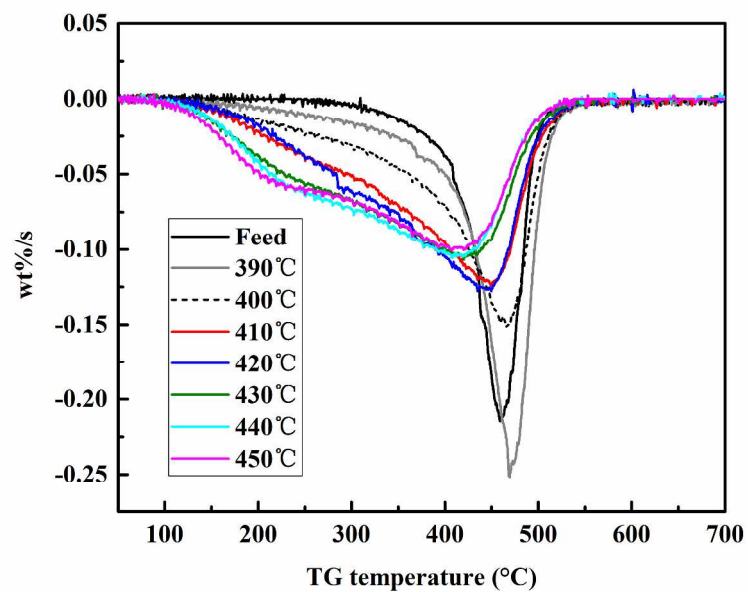
Supporting Information: Table 1S. Average molecular weight and a/m ratio of oil products.

Temperature (°C)	Number-average molecular weight (Mn)			Weight-average molecular weight (Mw)			a/m ratio of oil products		
	As. ^a	Ma. ^b	TS ^c	As.	Ma.	TS	Calculated by Mn ^d	Calculated by Mw	Measured by SARA
Feed	1552	732	767	4760	1597	2297	0.045	0.284	0.276
390	875	470	506	4513	1076	1776	0.098	0.256	0.255
400	711	371	401	3152	679	1183	0.097	0.256	0.259
410	447	298	304	1453	495	611	0.042	0.138	0.138
420	383	281	284	976	458	493	0.030	0.072	0.073
430	315	244	246	731	386	405	0.029	0.058	0.058
440	320	236	239	704	373	382	0.037	0.028	0.034
450	328	213	214	682	338	353	0.009	0.046	0.029

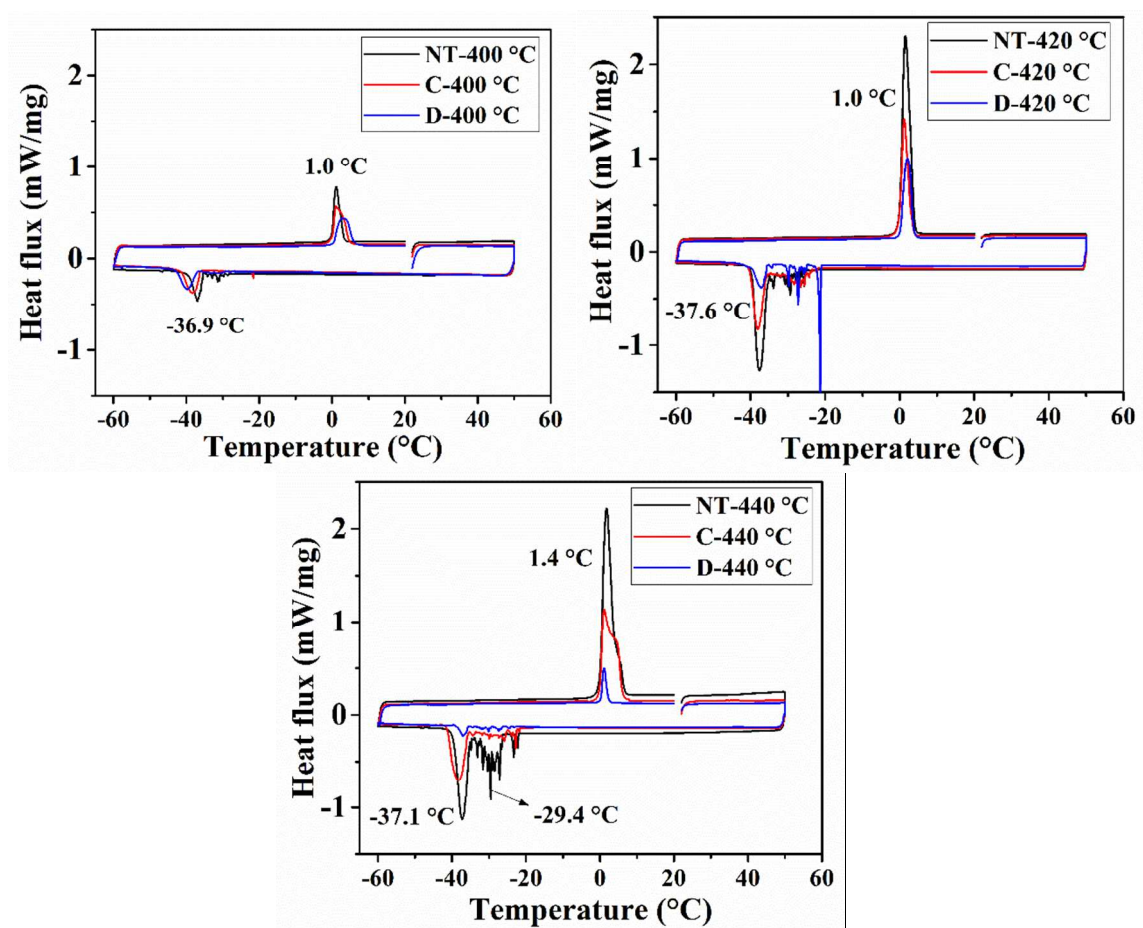
^a As. means asphaltene;^b Ma. means maltene;^c TS means toluene-soluble products, referring to as oil products;^d a/m ratio is calculated as: $a/m \text{ ratio} = \frac{(\text{Mn of TS} - \text{Mn of Ma.})}{(\text{Mn of As.} - \text{Mn of TS})}$.



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