

Supplementary Materials

Article

Alternative Options for Ebullated Bed Vacuum Residue Hydrocracker Naphtha Utilization

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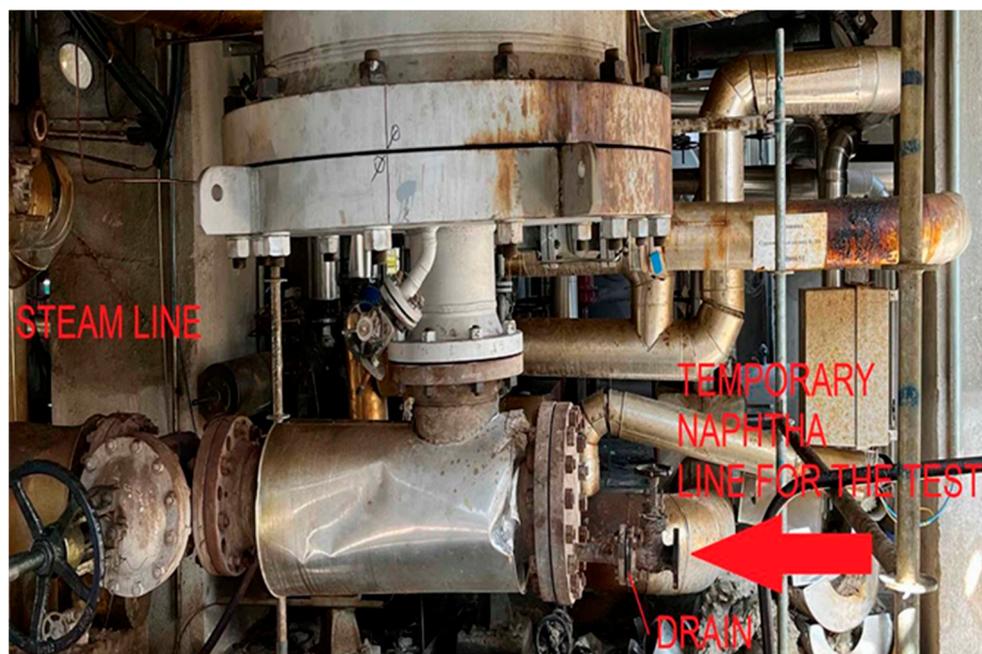


Figure S1. Selected point to feed the H-Oil naphtha in the FCC riser (with the lift steam).

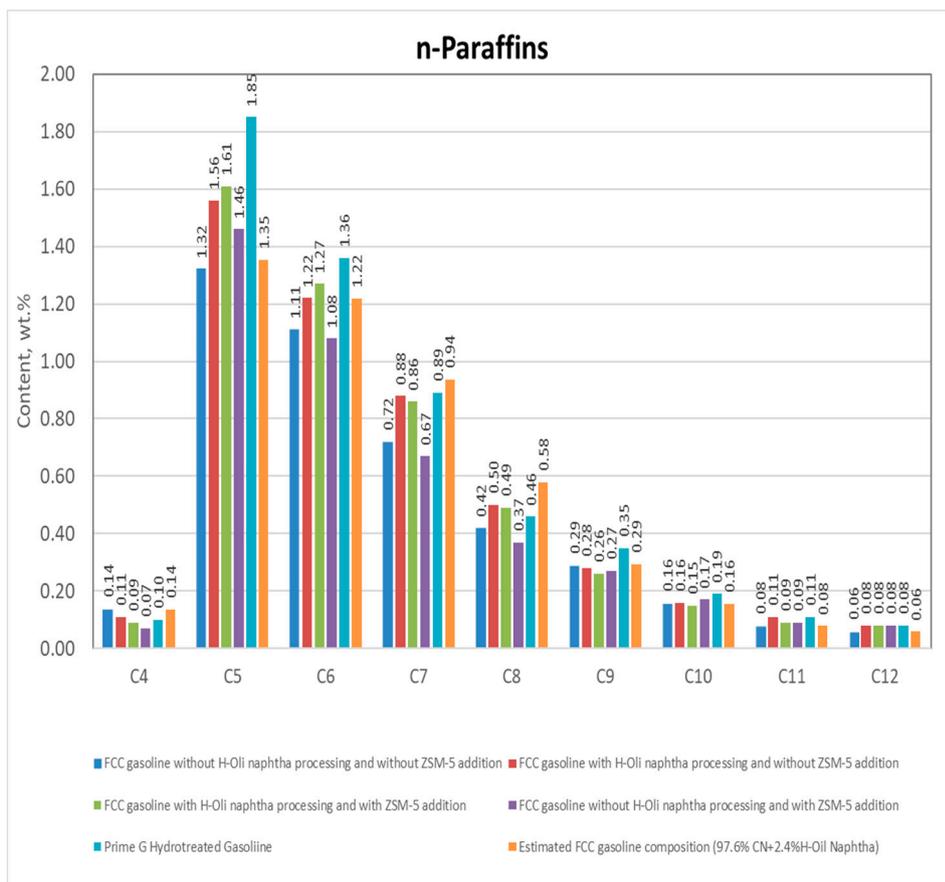


Figure S2. Distribution of n-paraffins by number of carbon atoms in studied FCC gasoline samples.

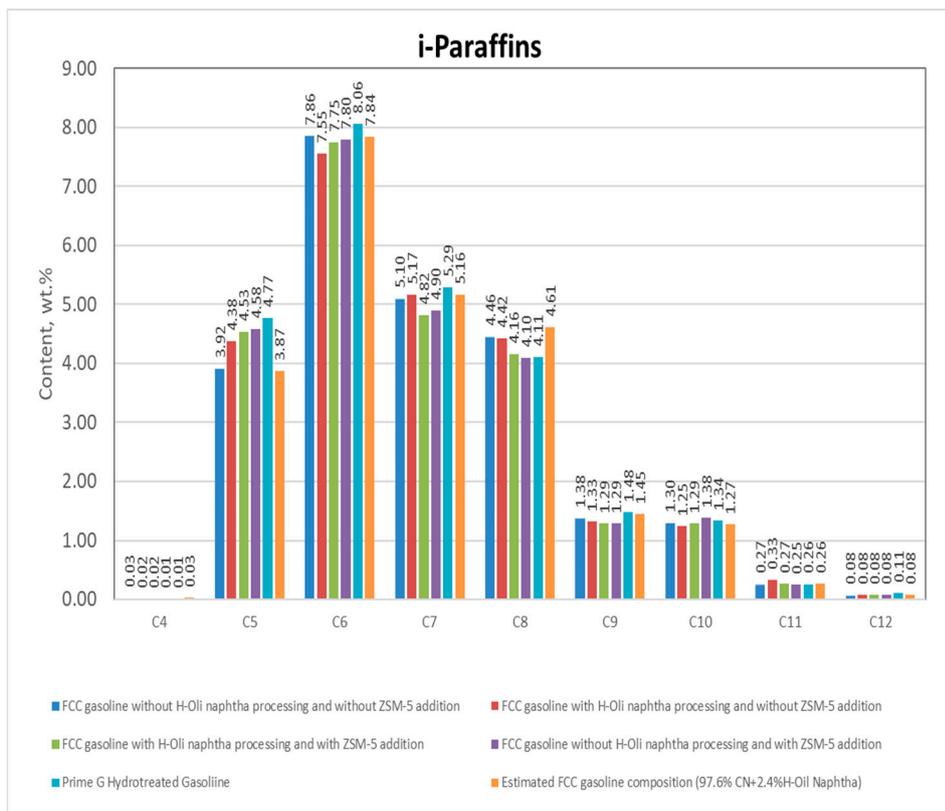


Figure S3. Distribution of iso-paraffins by number of carbon atoms in studied FCC gasoline samples.

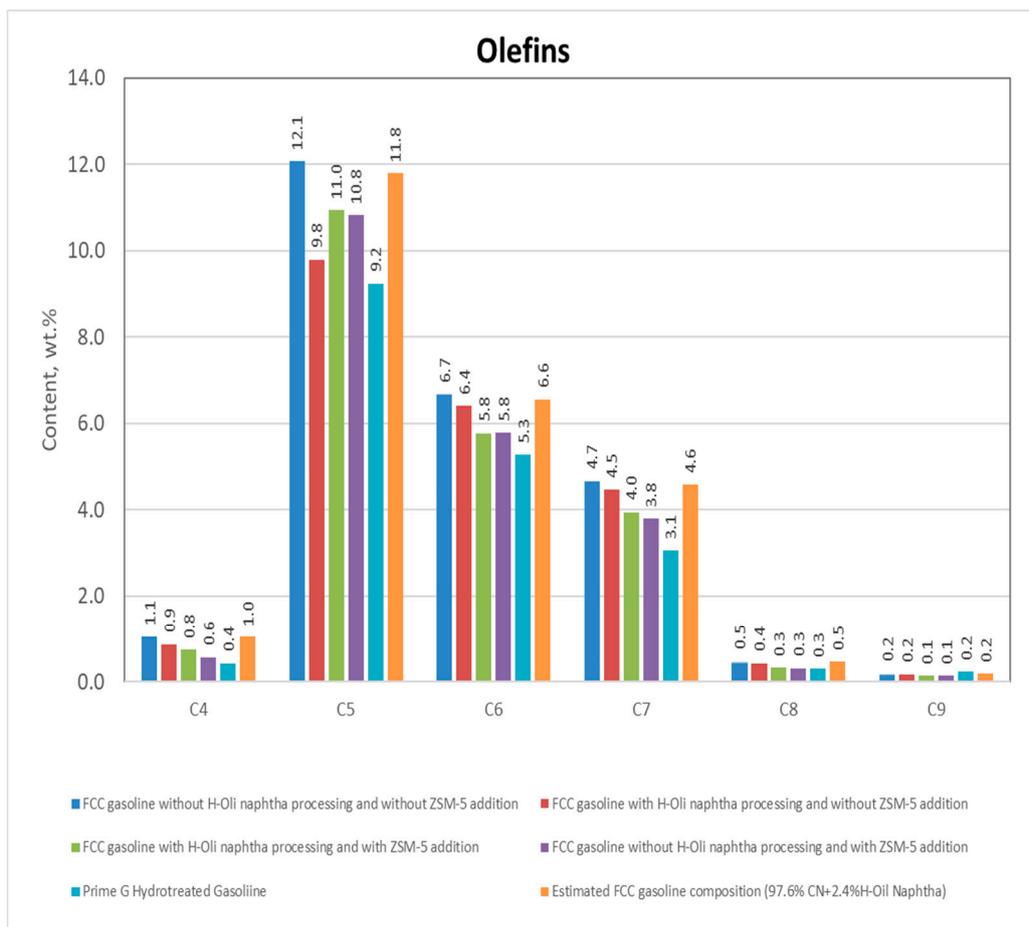


Figure S4. Distribution of olefins by number of carbon atoms in studied FCC gasoline samples.

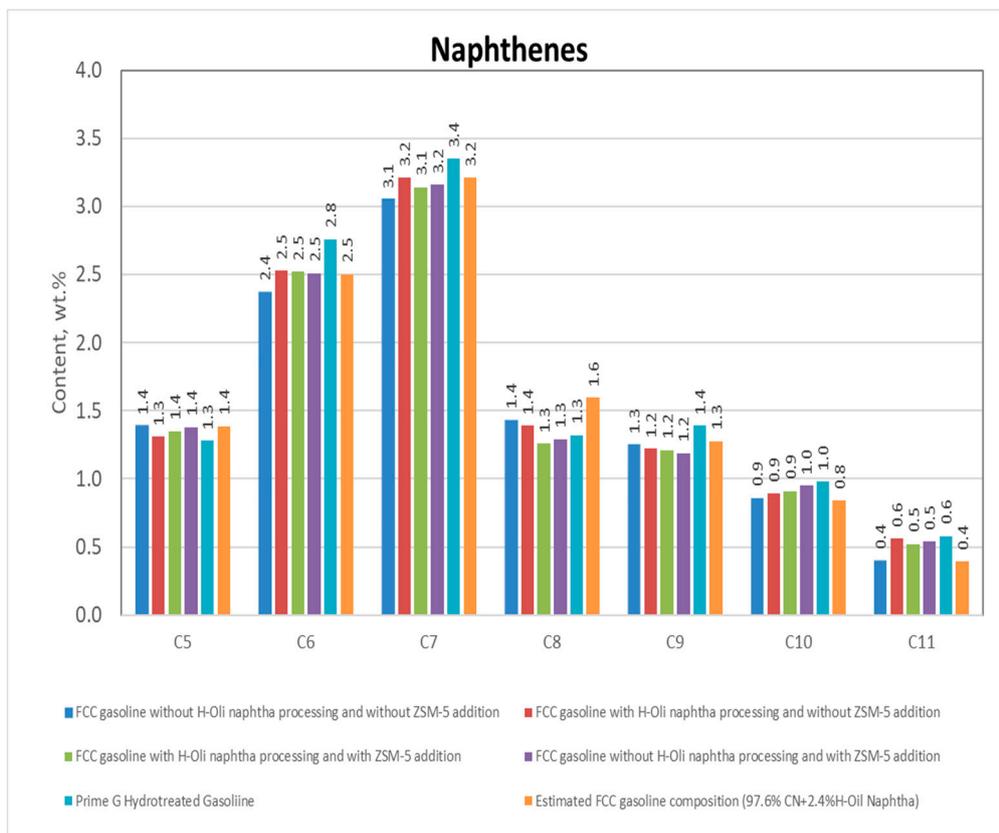


Figure S5. Distribution of naphthenes by number of carbon atoms in studied FCC gasoline samples.

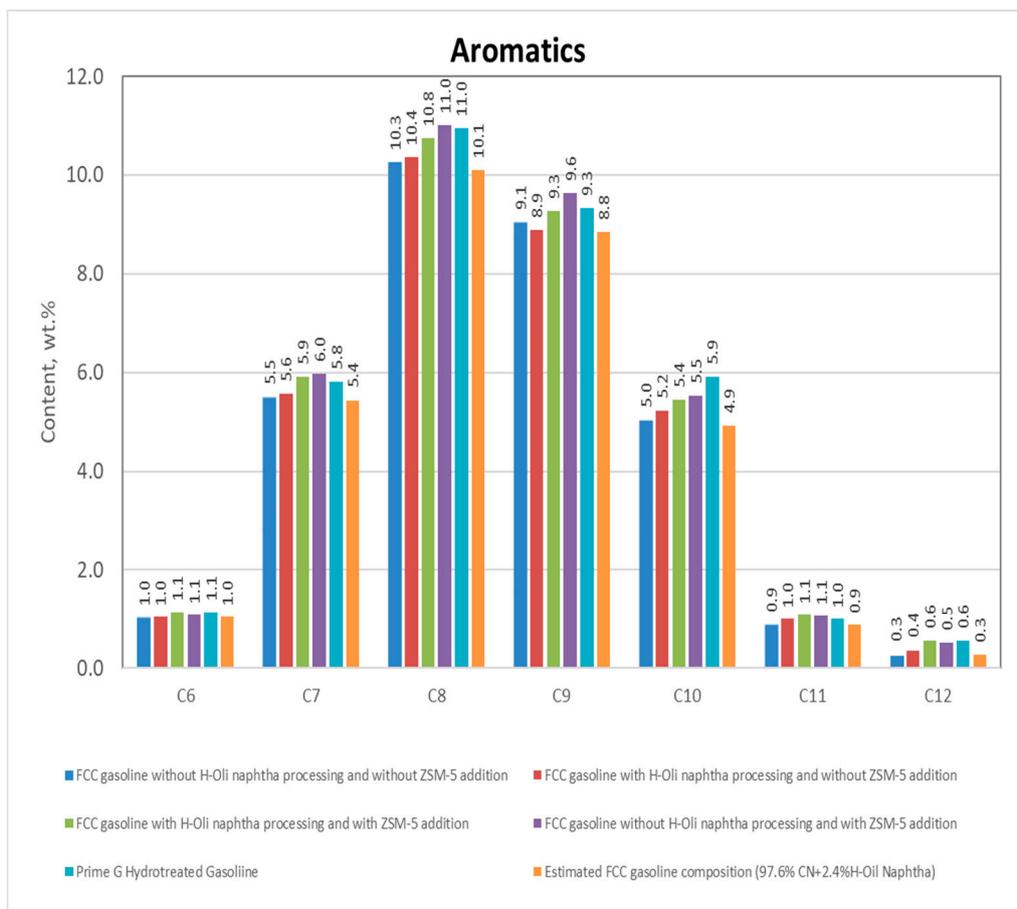


Figure S6. Distribution of aromatics by number of carbon atoms in studied FCC gasoline samples.

Table S1. Composition and RON, and MON of five investigated gasoline blends.

Components	Gasoline blend composition without naphtha, vol.%	Gasoline blend composition with naphtha, vol.%				
	1	2	3	4	5	
Blend No	1	2	3	4	5	
Prime-G+ hydrotreated FCC gasoline	53.65	51.50	49.35	47.21	45.06	
Reformate	26.04	25.00	23.96	22.92	21.88	
Alkylate	13.54	13.00	12.46	11.92	11.38	
Naphtha		4.00	8.00	12.00	16.00	
MTBE	6.77	6.50	6.23	5.96	5.69	
Total	100.00	100.00	100.00	100.00	100.00	
RON of the blend	96.7	95.90	94.7	93.9	92.7	
MON of the blend	85.4	85.00	84.5	84.1	83.8	