
Standard-Compliant Gasoline by Upgrading a DTG-Based Fuel through Hydroprocessing the Heavy-Ends and Blending of Oxygenates

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Supplementary Materials

Table S1. Composition of bioliq[®] LG in vol.%.

C-Nr.	Naph.	Paraf.	Cycl Ol.	Olef.	Arom.	Oxyg.	Total
4	-	0.90	-	0.05	-	-	0.94
5	0.08	2.81	-	0.15	-	0.02	3.06
6	0.38	4.68	0.04	0.25	1.44	0.04	6.82
7	1.16	3.26	0.20	0.24	15.96	-	20.81
8	2.39	2.22	0.49	0.20	43.14	-	48.44
9	1.22	0.85	0.40	0.15	16.26	-	18.89
10	0.21	0.32	0.12	0.02	0.08	-	0.76
11+	-	0.25	-	-	-	-	0.25
Poly	0.02	-	-	-	-	-	0.02
Total	5.46	15.29	1.26	1.05	76.88	0.06	100.00

Table S2. Composition of HG-HP@270 °C in vol.%.

C-Nr.	Naph.	i-Par.	n-Par.	Cycl Ol.	Olef.	Arom.	Total
4	-	0.16	0.14	-	-	-	0.30
5	0.01	0.46	0.47	-	-	-	0.94
6	0.48	0.71	0.47	-	-	0.01	1.67
7	1.38	0.23	0.09	-	-	0.05	1.76
8	2.14	0.16	0.03	-	-	0.37	2.70
9	38.66	0.13	-	0.02	-	0.06	38.87
10	51.99	0.01	0.10	0.03	-	0.01	52.14
11	0.08	0.04	-	-	-	-	0.12
12+	0.84	-	-	-	-	0.02	0.86
Poly	0.63	-	-	-	-	-	0.63
Total	96.21	1.90	1.29	0.05	-	0.53	100.00

Table S3. Composition of HG-HP@310 °C in vol.%.

C-Nr.	Naph.	i-Par.	n-Par.	Cycl Ol.	Olef.	Arom.	Total
4	-	1.34	0.53	-	-	-	1.87
5	0.18	2.52	3.68	-	-	-	6.39
6	3.67	4.77	4.00	0.01	-	0.17	12.63
7	4.85	0.59	0.20	-	-	0.62	6.27
8	4.60	0.25	0.17	-	-	0.51	5.53
9	22.86	0.12	0.06	-	-	0.26	23.30
10	39.71	0.06	0.02	-	-	0.05	39.84
11	0.36	0.39	0.05	-	-	-	0.80
12+	2.32	-	-	-	-	0.01	2.34
Poly	1.04	-	-	-	-	-	1.04
Total	79.59	10.04	8.72	0.01	-	1.64	100.00

Table S4. Composition of HG-HP@330 °C in vol.%.

C-Nr.	Naph.	i-Par.	n-Par.	Cycl Ol.	Olef.	Arom.	Total
4	-	1.45	1.09	-	-	-	2.55
5	0.25	3.84	8.30	-	-	-	12.39
6	4.09	8.22	8.68	-	-	0.01	21.00
7	4.57	0.39	0.15	-	-	0.02	5.14
8	3.25	0.18	0.01	-	-	0.19	3.63
9	27.59	0.08	-	0.02	-	0.07	27.75
10	26.19	0.08	-	0.03	-	0.07	26.36
11	0.41	0.02	0.04	-	-	-	0.46
12+	0.53	-	-	-	-	0.04	0.57
Poly	0.14	-	-	-	-	-	0.14
Total	67.02	14.26	18.27	0.05	-	0.39	100.00

Table S5. Composition of FT-HP in vol.%.

C-Nr.	Naph.	i-Par.	n-Par.	Cycl Ol.	Olef.	Arom.	Total
4	-	0.98	1.82	-	-	-	2.80
5	0.07	8.94	10.40	-	-	-	19.41
6	0.70	15.50	11.78	-	0.02	-	27.99
7	1.42	13.56	6.60	-	0.01	0.04	21.63
8	1.34	10.59	3.34	-	0.01	0.03	15.31
9	0.62	6.28	1.14	-	-	0.01	8.05
10	0.14	2.68	0.29	-	-	0.03	3.14
11	-	0.72	0.30	-	-	-	1.02
12+	-	0.65	-	-	-	-	0.65
Poly	-	-	-	-	-	-	-
Total	4.29	59.89	35.67	-	0.05	0.10	100

Table S6. Composition of bioliq[®] HG in vol.%.

C-Nr.	Naph.	i-Par.	n-Par.	Cycl Ol.	Olef.	Arom.	Total
4	-	-	-	-	-	-	-
5	-	0.05	0.01	-	-	-	0.06
6	0.02	0.11	0.01	-	-	0.02	0.16
7	0.03	0.08	-	-	-	0.28	0.39
8	0.06	0.10	-	-	-	1.09	1.26
9	0.13	0.03	-	0.02	-	32.78	32.97
10	0.48	0.06	0.06	0.08	-	52.60	53.28
11	0.06	0.37	0.08	0.10	0.08	-	0.68
12+	-	0.95	-	-	-	10.20	11.14
Poly	0.06	-	-	-	-	-	0.06
Total	0.84	1.75	0.16	0.19	0.08	96.97	100.00

Table S7. Composition of blend A in vol.%.

C-Nr.	Naph.	Paraf.	Cycl Ol.	Olef.	Arom.	Oxyg.	Total
1	-	-	-	-	-	3.10	3.10
2	-	-	-	-	-	5.81	5.81
3	-	-	-	-	-	-	-
4	-	2.17	-	0.02	-	-	2.19
5	0.09	9.08	-	0.07	-	0.01	9.25
6	0.99	13.48	0.02	0.11	0.62	0.02	15.24
7	1.64	8.25	0.09	0.11	6.85	-	16.94
8	1.90	5.69	0.22	0.10	18.52	-	26.43
9	4.72	2.89	0.19	0.07	6.99	-	14.86
10	3.97	1.16	0.06	0.01	0.04	-	5.24
11+	-	0.77	-	-	0.07	-	0.84
Poly	0.09	-	-	-	-	-	0.09
Total	13.39	43.50	0.58	0.49	33.09	8.95	100.00

Table S8. Composition of blend B in vol.%.

C-Nr.	Naph.	Paraf.	Cycl Ol.	Olef.	Arom.	Oxyg.	Total
1	-	-	-	-	-	3.33	3.33
2	-	-	-	-	-	0.51	0.51
3	-	-	-	-	-	-	-
4	-	1.56	-	1.23	-	0.07	2.85
5	0.08	7.68	-	0.41	-	0.09	8.27
6	0.90	10.16	0.02	0.11	0.62	14.94	26.75
7	1.46	5.81	0.09	0.11	6.85	0.02	14.34
8	1.77	4.01	0.22	0.12	18.44	-	24.56
9	4.61	2.00	0.19	0.08	6.94	-	13.82
10	3.91	0.80	0.07	0.02	0.03	-	4.82
11+	-	0.65	-	-	0.05	-	0.70
Poly	0.04	-	-	-	-	-	0.04
Total	12.77	32.66	0.59	2.07	32.93	18.97	100.00