

Simultaneous Catalytic Conversion of Acid Pretreated Biomass into High-quality Syngas and Bio-oil at Mild Temperature

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Tab. S1 Relative content of main chemical species in bio-oil obtained from raw and pretreated rice husk samples.

	RH-N	RH	PTRH60	PTRH80	PTRH10 0	PTRH12 0	PTRH14 0
Acids	20.27	2.12	0.98	1.12	1.82	1.07	0.95
Acetic acid	17.55	2.12	0.98	1.12	1.82	1.07	0.95
Propanoic acid	1.86	--	--	--	--	--	--
Butanoic acid, 4-hydroxy-	0.86	--	--	--	--	--	--
Ketones	16.51	--	--	--	--	--	--
2-Propanone, 1-hydroxy-	6.37	--	--	--	--	--	--
1-Hydroxy-2-butanone	1.23	--	--	--	--	--	--
2-Cyclopenten-1-one	1.49	--	--	--	--	--	--
2-Cyclopenten-1-one, 2-methyl-	1.19	--	--	--	--	--	--
2-Cyclopenten-1-one, 2-hydroxy-	2.93	--	--	--	--	--	--
1,2-Cyclopentanedione, 3-methyl-	2.33	--	--	--	--	--	--
Levoglucosenone	0.97	--	--	--	--	--	--
Aldehydes	4.81	--	--	--	--	--	--
Succindialdehyde	1.74	--	--	--	--	--	--
Pentanal	3.07	--	--	--	--	--	--
Furans	15.92	--	--	--	--	--	--
Furfural	2.97	--	--	--	--	--	--
2-Furanmethanol	2.79	--	--	--	--	--	--
2(5H)-Furanone	1.97	--	--	--	--	--	--
Benzofuran, 2,3-dihydro-	6.61	--	--	--	--	--	--
5-Hydroxymethylfurfur al	0.79	--	--	--	--	--	--
5-Hydroxymethylidihyd rofuran-2-one	0.79	--	--	--	--	--	--
Phenols	33.92	86.09	86.09	86.7	88.72	87.56	86.7
Benzaldehyde, 2-hydroxy-	0.86	--	--	--	--	--	--
Phenol	3.88	66.44	66.57	67.43	67.14	63.06	56.71

Phenol, 2-methoxy-	1.39	--	--	--	--	--	--	--
Phenol, 2-methyl-	2.12	5.6	4.39	4.28	5.22	5.65	5.92	
Phenol, 2,5-dimethyl-	1.30	--	--	--	--	--	--	1.96
p-Cresol	2.35	--	--	--	--	--	--	--
Phenol, 3-methyl-	1.86	14.07	15.13	14.99	16.36	18.85	19.47	
Phenol, 2,4-dimethyl-	1.70	--	--	--	--	--	--	--
Phenol, 4-ethyl-	3.65	--	--	--	--	--	--	2.64
Phenol,								
4-ethyl-2-methyl-	1.15	--	--	--	--	--	--	--
2-Methoxy-4-vinylphenol	1.49	--	--	--	--	--	--	--
Catechol	4.17	--	--	--	--	--	--	--
Phenol, 4-(2-propenyl)-	1.12	--	--	--	--	--	--	--
Phenol, 4-(2-propenyl)-	1.48	--	--	--	--	--	--	--
1,2-Benzenediol,								
4-methyl-	2.43	--	--	--	--	--	--	--
Hydroquinone	1.33	--	--	--	--	--	--	--
1,4-Benzenediol,								
2-methyl-	0.82	--	--	--	--	--	--	--
4-Ethylcatechol	0.81	--	--	--	--	--	--	--

Esters	5.79	--	--	--	--	--	--	--
1,2-Ethanediol, monoacetate	1.5	--	--	--	--	--	--	--
Propanoic acid, 2-oxo-, methyl ester	1.53	--	--	--	--	--	--	--
2-Propanone, 1-(acetoxy)-	1.29	--	--	--	--	--	--	--
10-Undecenoic acid, octyl ester	1.47	--	--	--	--	--	--	--

Others	2.78	3.71	7.30	2.00	--	--	0.93
Ethane, 1,1-diethoxy-	--	3.71	--	--	--	--	--
Hydroquinone, 2TMS derivative	0.8	--	--	--	--	--	--
Phenol,							
3-methyl-4-(methylthio))	0.99	--	--	--	--	--	--
Prednisolone Acetate	0.99	--	7.3	--	--	--	--
Diisooctyl phthalate	--	--	--	0.9	--	--	--
Benzenemethanol,							
2-[bis(4-hydroxyphenyl))methyl]-	--	--	--	1.1	--	--	--
Benzoic acid,	--	--	--	--	--	--	0.93

5-[2-chloro-4-(trifluoro
methyl)phenoxy]-2-nitr

o-, ethyl ester

L-Leucine,

N-ethoxycarbonyl-N-m
ethyl-, octadecyl ester

PAHs	0	8.08	5.63	10.18	9.46	11.37	11.41
Naphthalene	--	3.22	3.13	3.38	3.54	4.45	3.98
Naphthalene, 2-methyl-	--	1.79	1.66	1.89	1.88	2.13	2.3
Naphthalene, 1-methyl-	--	1.05	0.84	1.65	0.95	1.11	1.15
Benzocycloheptatriene	--	--	--	0.89	1.29	--	--
Biphenyl	--	--	--	0.82	0.91	1.51	1.54
Dibenzofuran	--	1.03	--	1.03	--	1.05	1.23
Fluorene	--	0.99	--	0.52	0.89	1.12	1.21

Fig.S1 Calibration Curve of Phenol.

