Supplementary Material

Production of 1,2-propanediol from fructose over biochar-supported RuWCu catalyst

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Table S1 Metal loadings in various catalysts.

Entry	Catalyst	Theoretical metal (%)			Actual metal (%)		
		Ru	W	Cu	Ru	W	Cu
1	$Ru_{0.5}W_{24}Cu_5$/biochar	0.5	24	5	0.24	21.54	3.84
2	$Ru_1W_{24}Cu_5$/biochar	1	24	5	0.68	22.47	3.58
3	$Ru_2W_{24}Cu_5$/biochar	2	24	5	1.55	20.55	4.02
4	$Ru_3W_{24}Cu_5$/biochar	3	24	5	2.71	18.35	3.94
5	$Ru_5W_{24}Cu_5$/biochar	5	24	5	4.32	20.14	3.75
6	$Ru_3W_{36}Cu_5$/biochar	3	36	5	2.46	29.75	3.69
7	$Ru_{0.5}W_{36}Cu_7$/biochar	0.5	36	7	0.34	30.02	5.97

Table S2 Physical properties of $Ru_{0.5}W_{35}Cu_7$/biochar calcinated at various temperatures.

Catalyst	Calcination Temperature (°C)	S_{BET} ($m^2\ g^{-1}$)	V_P ($cm^3\ g^{-1}$)	d_P (nm)
$Ru_{0.5}W_{35}Cu_7$/biochar	300	12.08	0.030	1.54
$Ru_{0.5}W_{35}Cu_7$/biochar	400	16.16	0.043	1.56
$Ru_{0.5}W_{35}Cu_7$/biochar	500	9.72	0.030	2.17
$Ru_{0.5}W_{35}Cu_7$/biochar	600	6.84	0.018	1.85

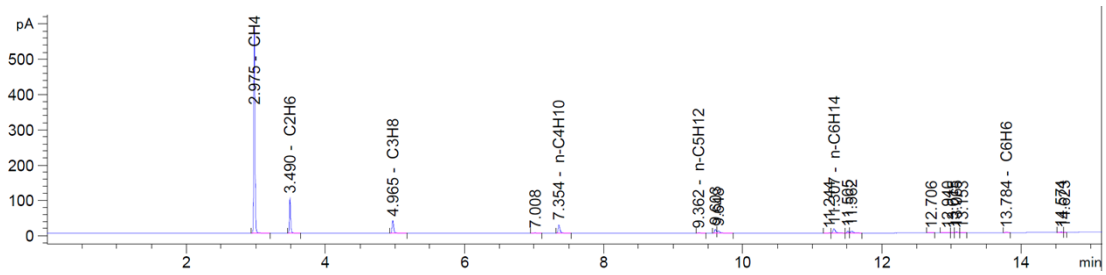

Fig. S1 GC spectrum of gas-phase products during conversion of fructose to 1,2-PDO.