



Supplementary Materials

Table. S1. GC/MS operational parameters applied to Py-GC/MS analysis in this study.

GC	Inlet	300 °C, split 300:1
	Oven	from 40 °C to 320 °C (1 minute hold) at 20 °C/min
	Carrier gas	1 mL/min (constant flow)
	MS interface	300 °C
MS	Scan	m/z 32 ~ 400, 3.9 scans/sec

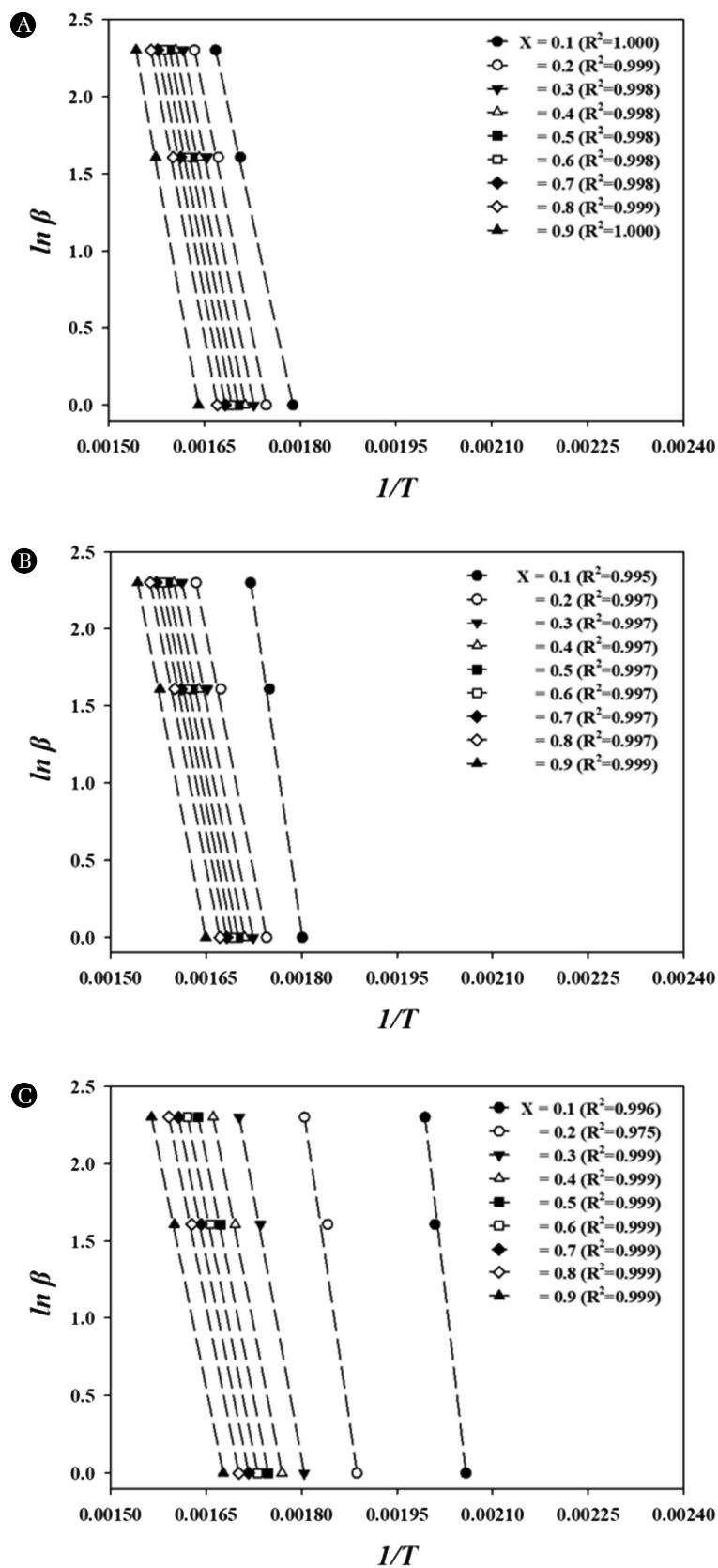


Fig. S1. Plots $\ln \beta$ and $1/T$ at each conversion rate obtained from the TG analysis: (A) CA, (B) UTF, (C) WTF.