Supporting Information

Characteristics of biomass devolatilization and in-situ char gasification by the non-isothermal method

Xi Zeng[1, 2*], Kaito Kahara[3], Yasuaki Ueki[1], Ryo Yoshiie[3], Guangwen Xu[2], Ichiro Naruse[1]

1 Institute of Materials and Systems for Sustainability (IMaSS), Nagoya University, Nagoya 464-8601, Japan

2 State Key Laboratory of Multi-Phase Complex Systems, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100190, People's Republic of China

3 Department of Mechanical Systems Engineering, Nagoya University, Nagoya 464-8601, Japan

*Authors to whom correspondence should be addressed. Phone: +81-52-789-2710; Fax: +81-52-789-5123; E-mail: zengxi1234@163.com (Xi Zeng).

Table S1 Correlation coefficient of BD and CG under different reaction orders

Biomass devolatilization stage		Char gasification stage	
Reaction order (n)	Correlation coefficient (R^2)	Reaction order (n)	Correlation coefficient (R^2)
n=0.6	0.9901	n=0.1	0.9812
n=0.7	0.9915	n=0.2	0.983
n=0.8	0.9928	n=0.3	0.9844
n=0.9	0.9939	n=0.4	0.9852
n=1.0	0.9948	n=0.5	0.9862
n=1.1	0.9945	n=0.6	0.9887
/	/	n=2/3	0.9917
/	/	n=0.7	0.9903

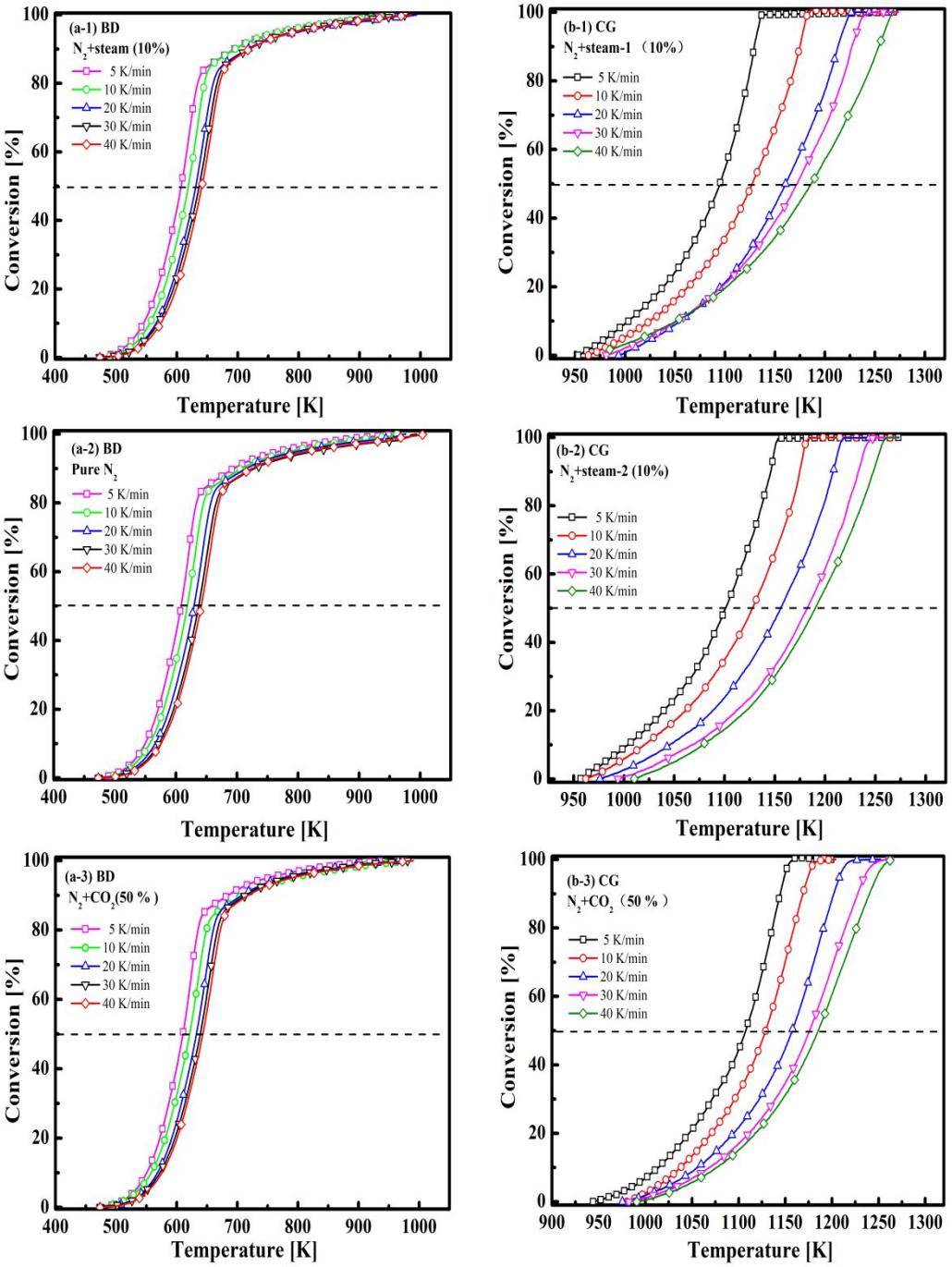

Fig. S1 Relationship of *X-T* for BD and CG in different atmospheres and heating rates