

Supplemental information

Confirmation of pore formation mechanisms in biochars and activated carbons by dual isotherm analysis

L. Scott Blankenship,^a Jacek Jagiello,^b and Robert Mokaya^a

^a School of Chemistry, University of Nottingham, University Park, Nottingham, NG7 2RD, UK

^b Micromeritics Instrument Corporation 4356 Communications Drive, Norcross GA, 30093, USA

Table S1: Gravimetric yields and residual mass after TGA of samples described in this work

Sample	Yield / wt.%	TGA residual / wt.%
NC0.0	20	0.3
NC0.7	16	0.3
NC0.9	16	0.8
SA0.0-250	15	0.0
SA0.5-250	11	0.0
SA1.0-250	10	0.1
SA0.0-300	26	0.0
SA0.5-300	10	0.3
SA1.0-300	9	0.2

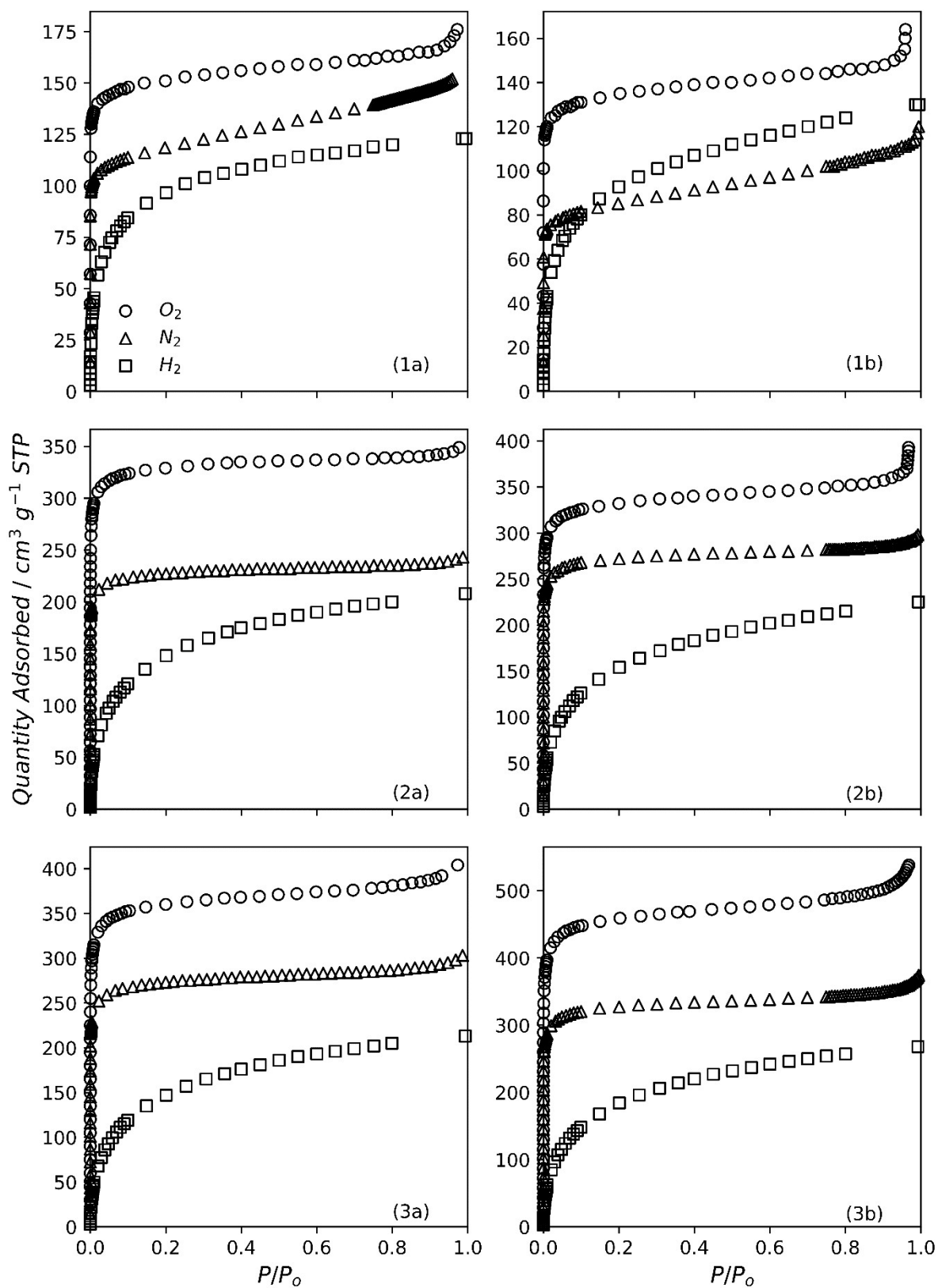


Figure S1: O_2 , N_2 , and H_2 isotherms at 77 K on SAX-250 (column a) and SAX-300 (column b) for KOH:SD ratios of 0.0, 0.5, and 1.0 – rows 1, 2, 3 respectively.

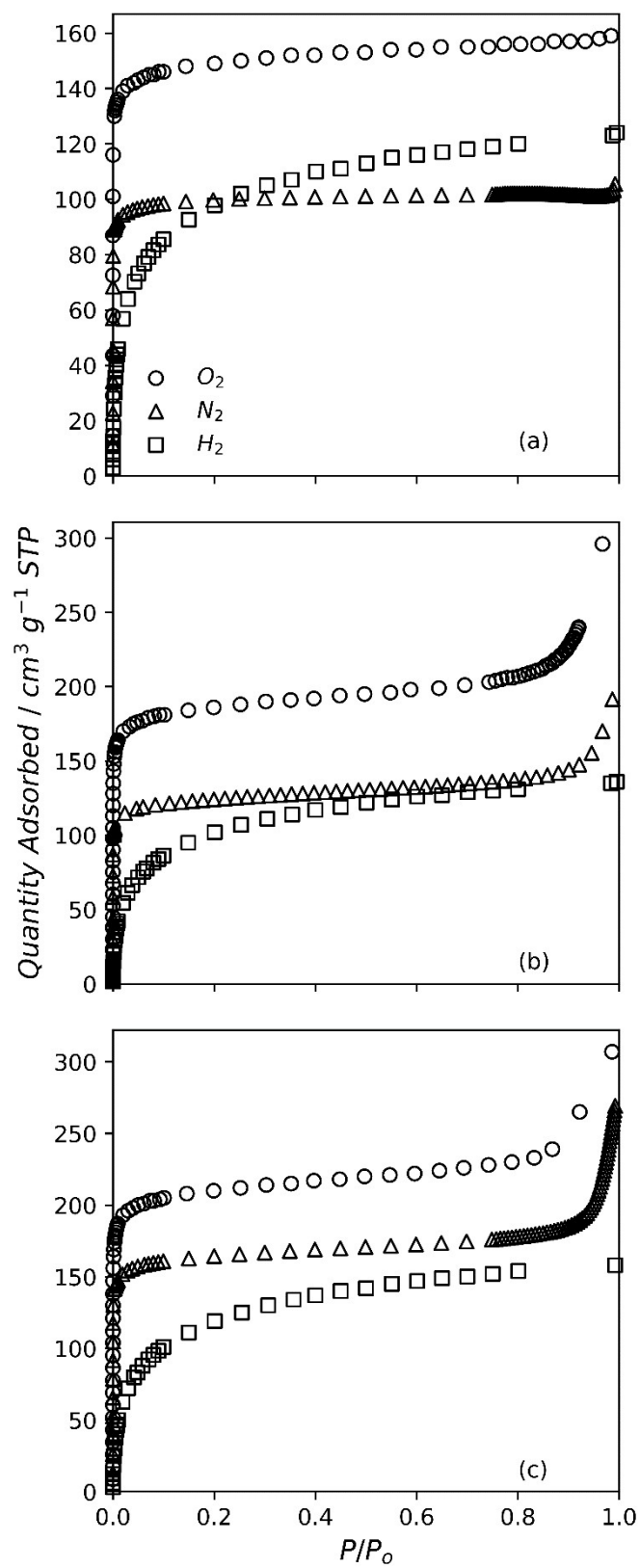


Figure S2: O_2 , N_2 , and H_2 isotherms at 77 K on NC0.0 (a), NC0.7 (b), and NC0.9 (c).

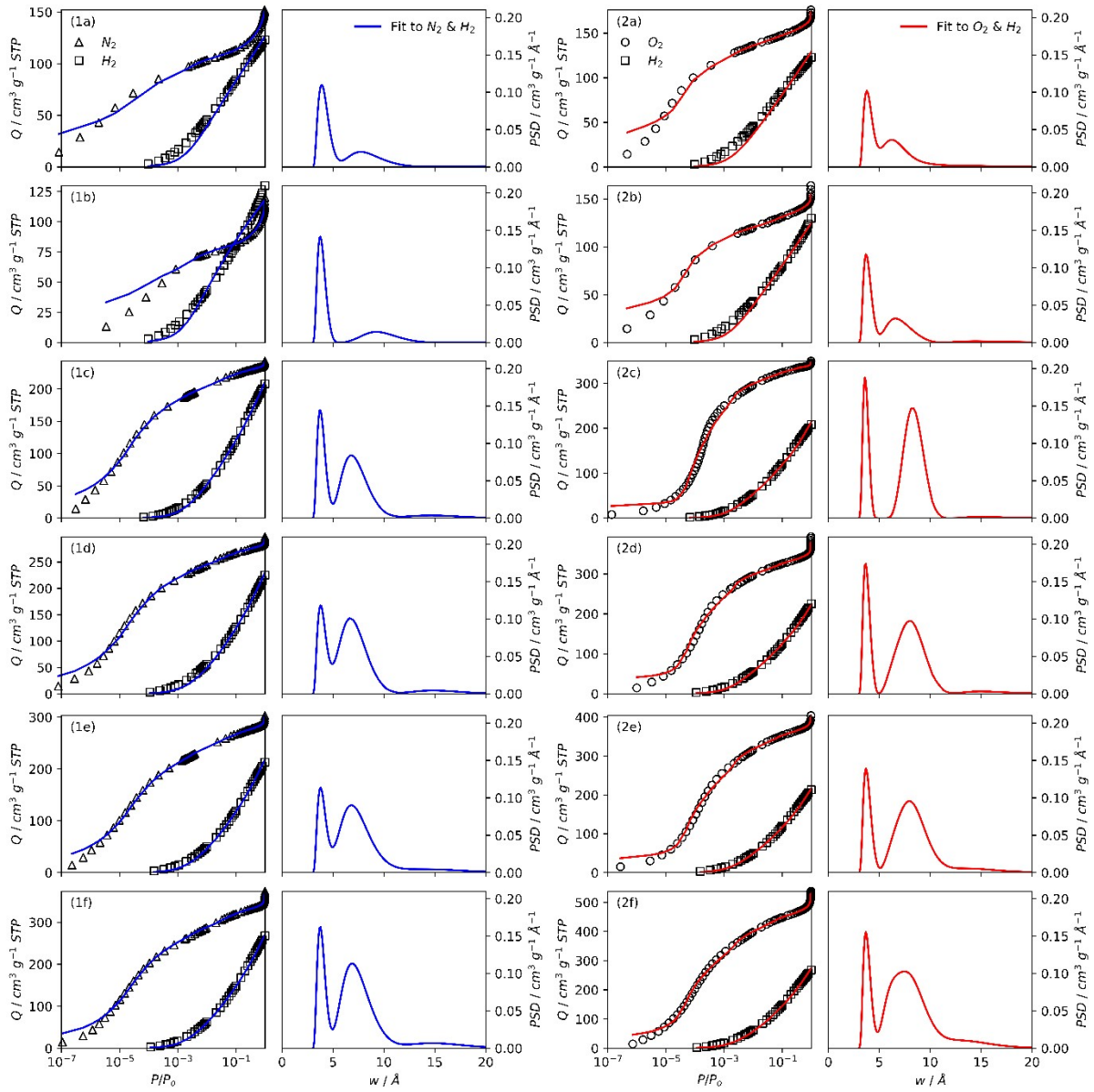


Figure S3: Dual fits of N₂/H₂ (column 1) and O₂/H₂ (column 2) isotherms for carbons SA0.0-250 (a), SA0.0-300 (b), SA0.5-250 (c), SA0.5-300 (d), SA1.0-250 (e), and SA1.0-300 (f).

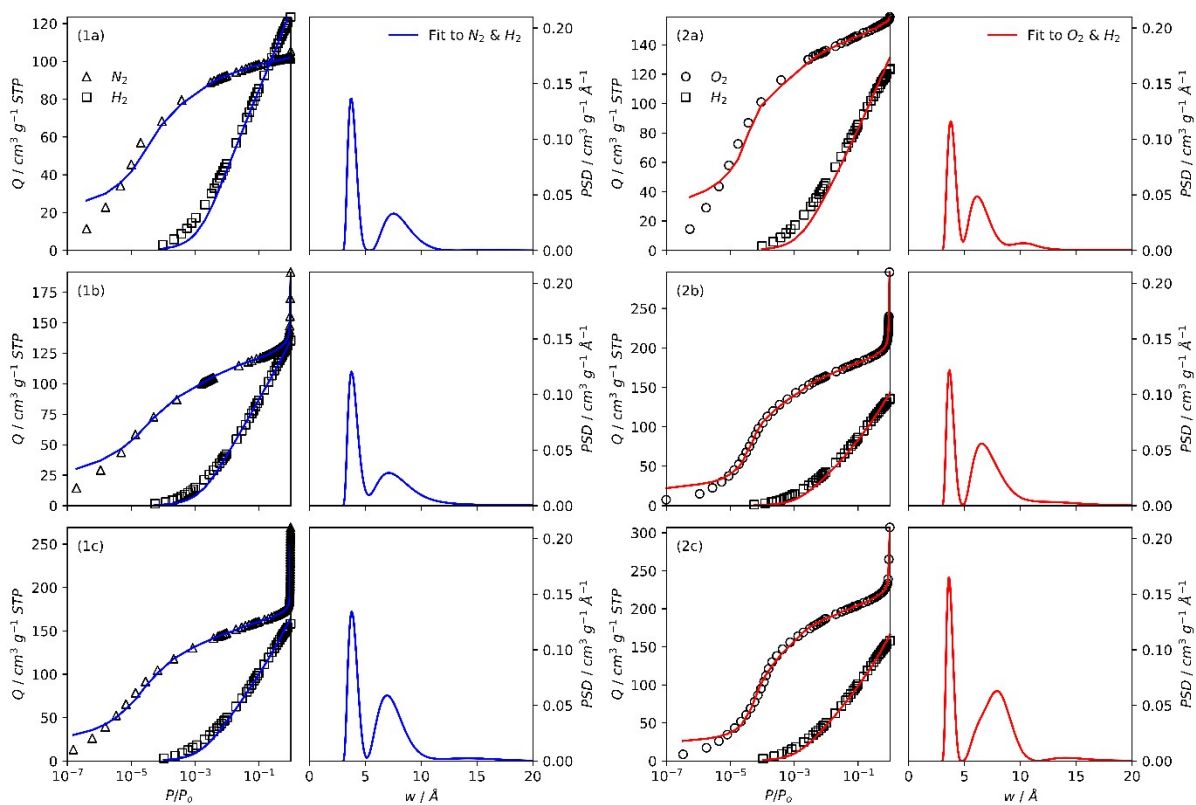


Figure S4: Dual fits of N_2/H_2 (column 1) and O_2/H_2 (column 2) isotherms for carbons NC0.0 (a), NC0.7 (b), and NC0.9 (c).

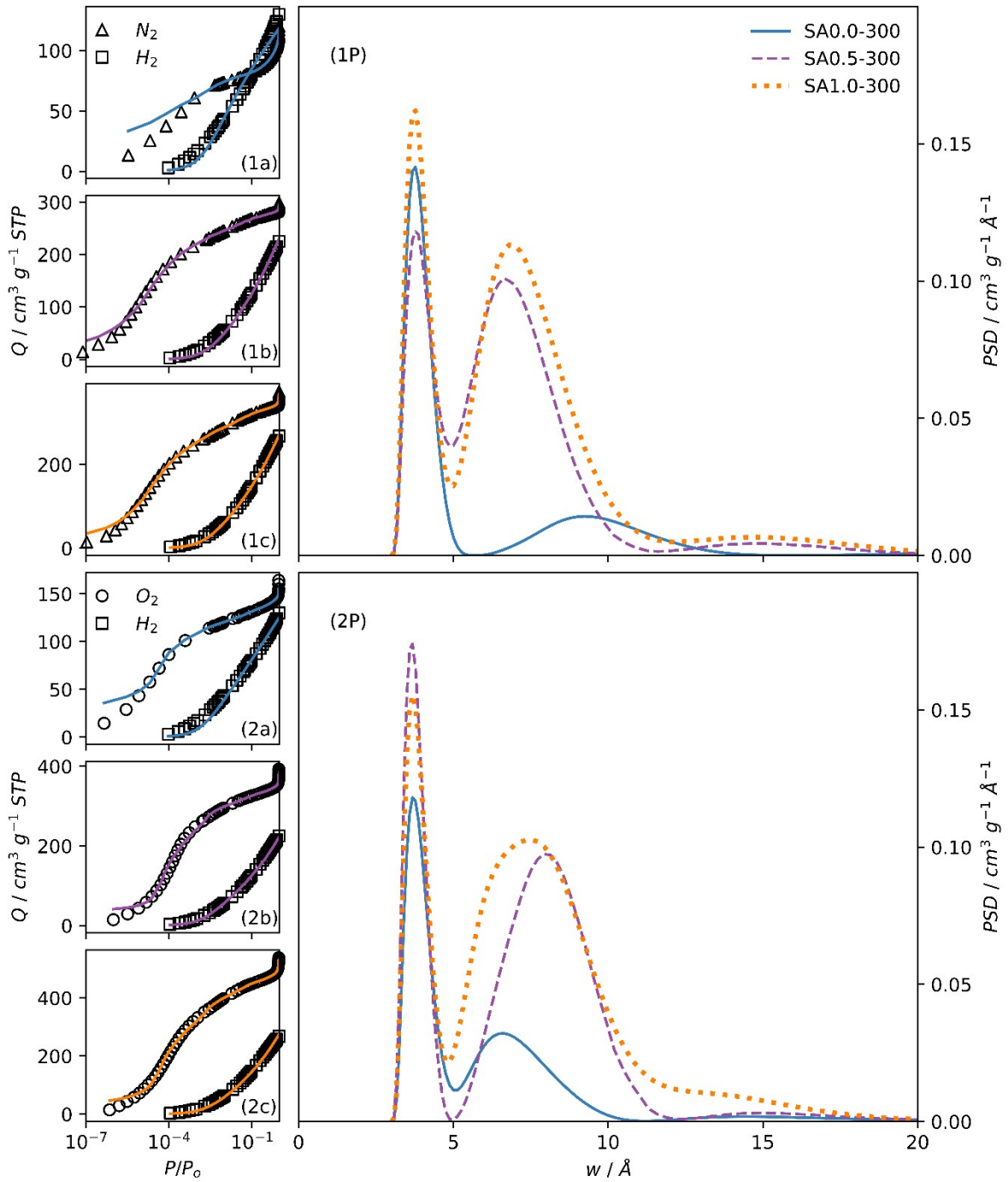


Figure S5: Fits to N_2/H_2 (1a, 1b, 1c) and O_2/H_2 (2a, 2b, 2c) isotherms of samples SAx-300 and resultant PSDs (1P, 2P)