

Figure S1 Schematic figure of the fixed bed reactor system for SO₂ adsorption

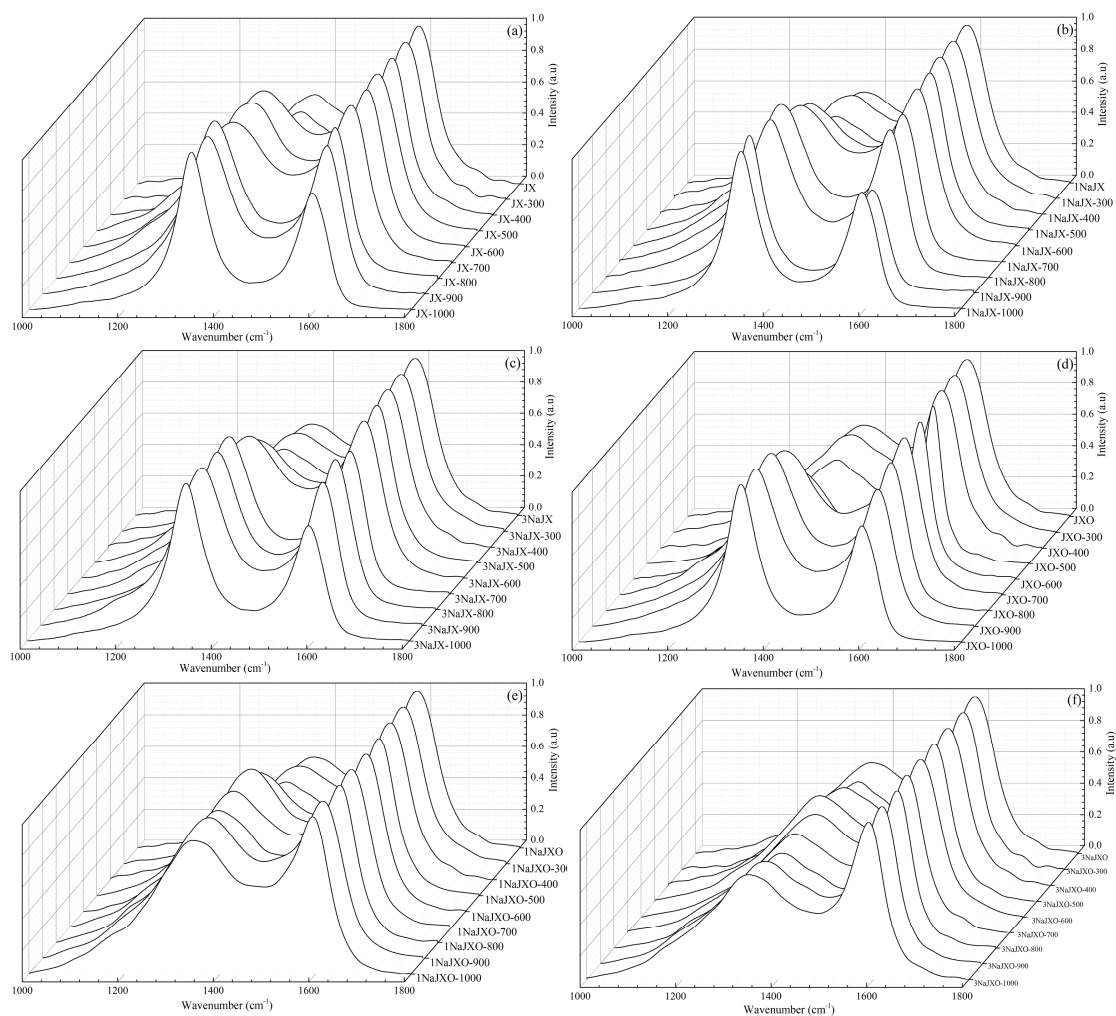


Figure S2 Raman spectra from chars produced by different pyrolysis (a)JX; (b) 1NaJX; (c)3NaJX; (d) JXO; (e) 1NaJXO; (f) 3NaJXO.

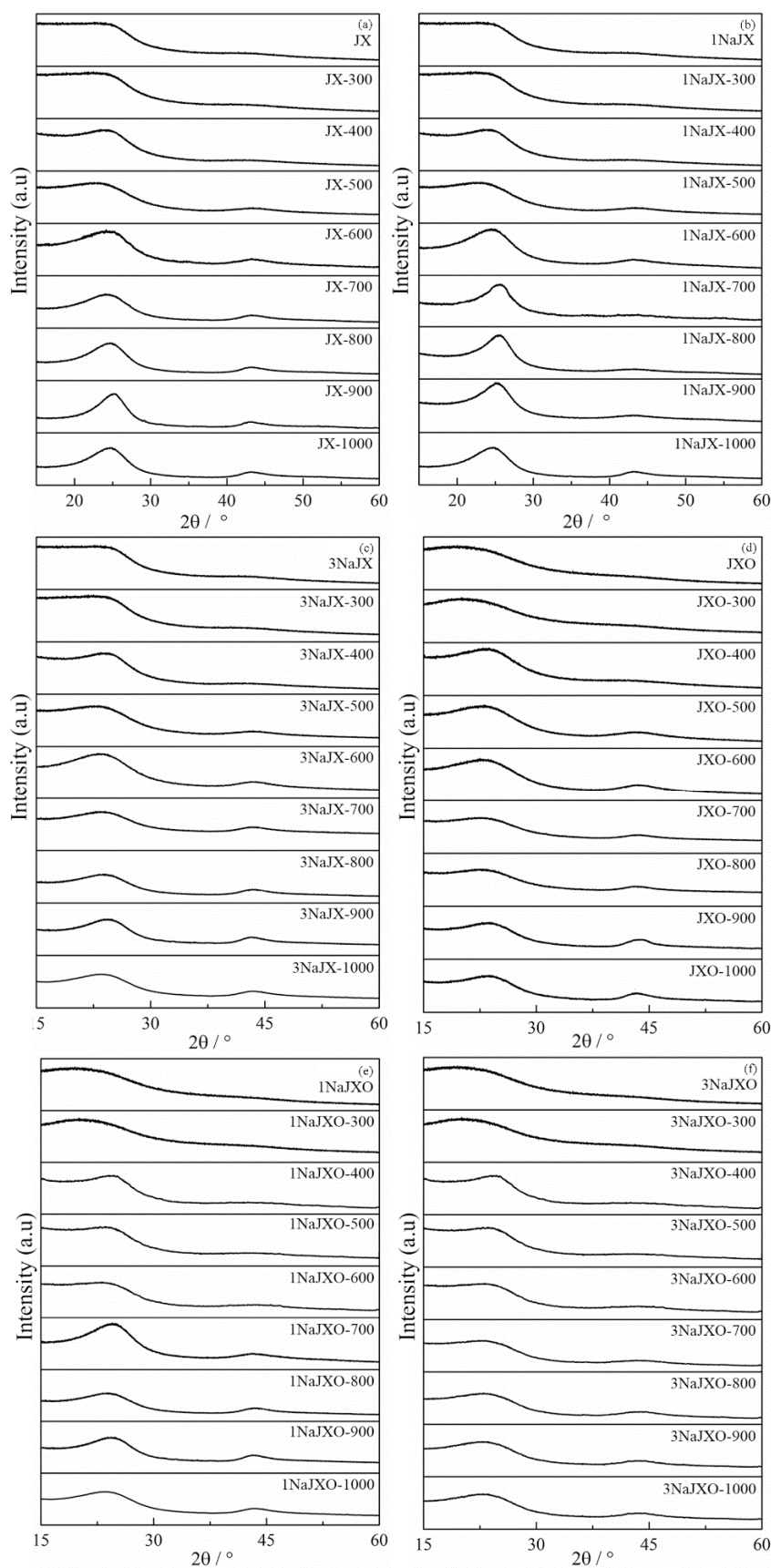


Figure S3 XRD profiles from chars produced by different pyrolysis (a)JX; (b) 1NaJX; (c)3NaJX; (d) JXO; (e) 1NaJXO; (f) 3NaJXO.

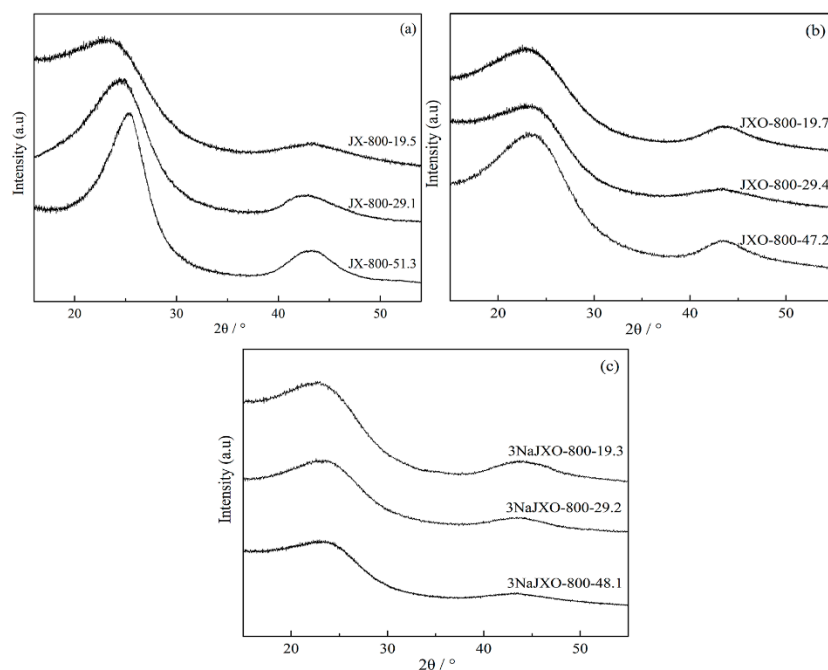


Figure S4. XRD profiles of coal chars at different burn offs during activation (a) JX-800 (b) JXO-800 (c) 3NaJXO-800

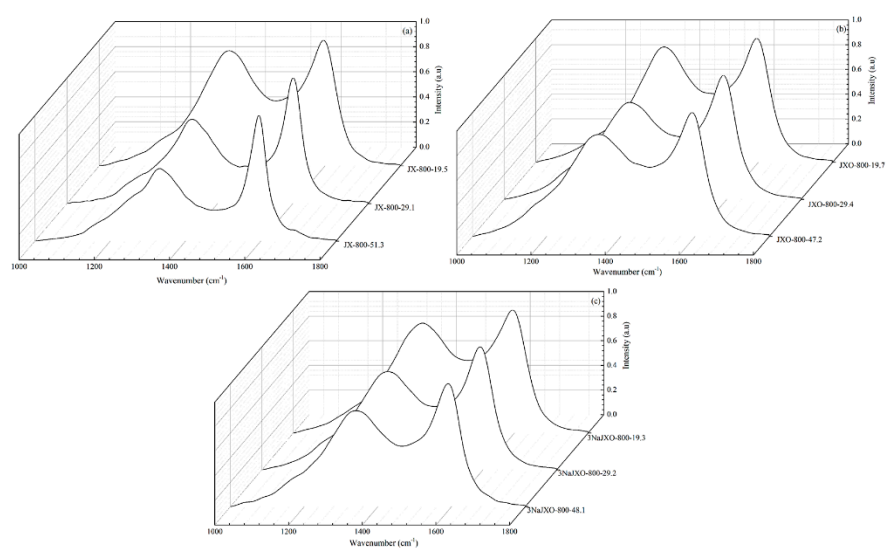


Figure S5. Raman spectra of coal chars at different burn offs during activation (a) JX-800 (b) JXO-800 (c) 3NaJXO-800