

APPENDIX D

Fourier Transform Infrared Spectroscopy

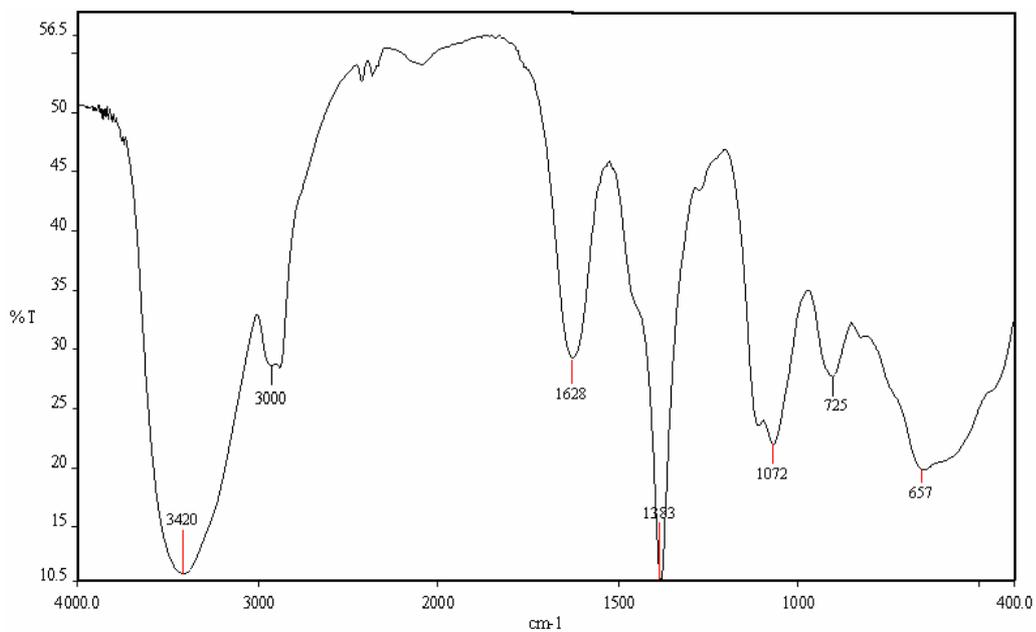


Figure D1 FTIR spectrum of dried solid SPNO

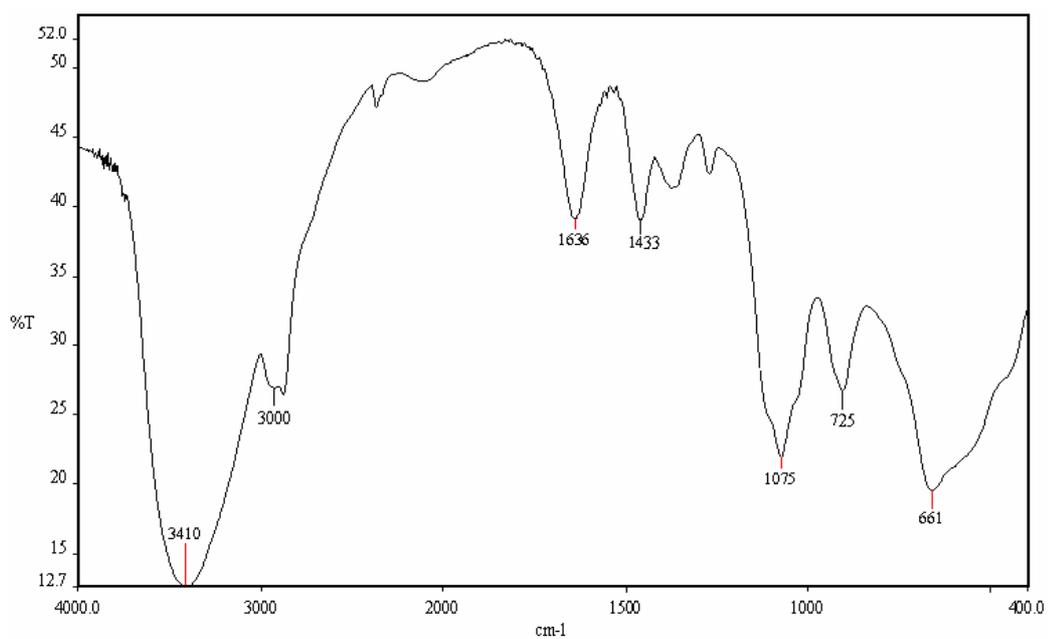


Figure D2 FTIR spectrum of dried solid SPCI

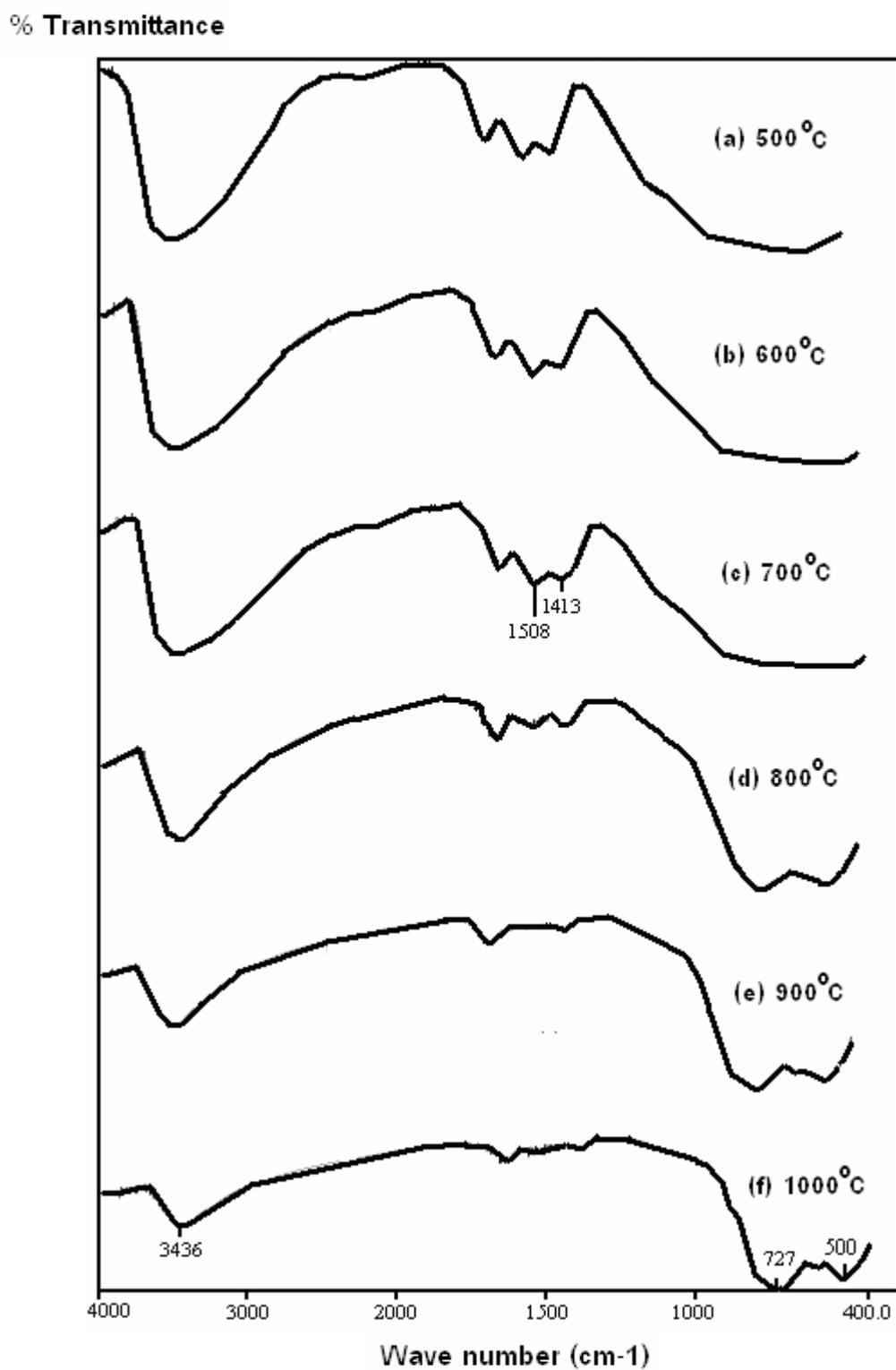


Figure D3 Representative FTIR spectra of SPNO precursor calcined at different temperature (a) 500°C, (b) 600°C, (c) 700°C, (d) 800°C, (e) 900°C (f) 1000°C

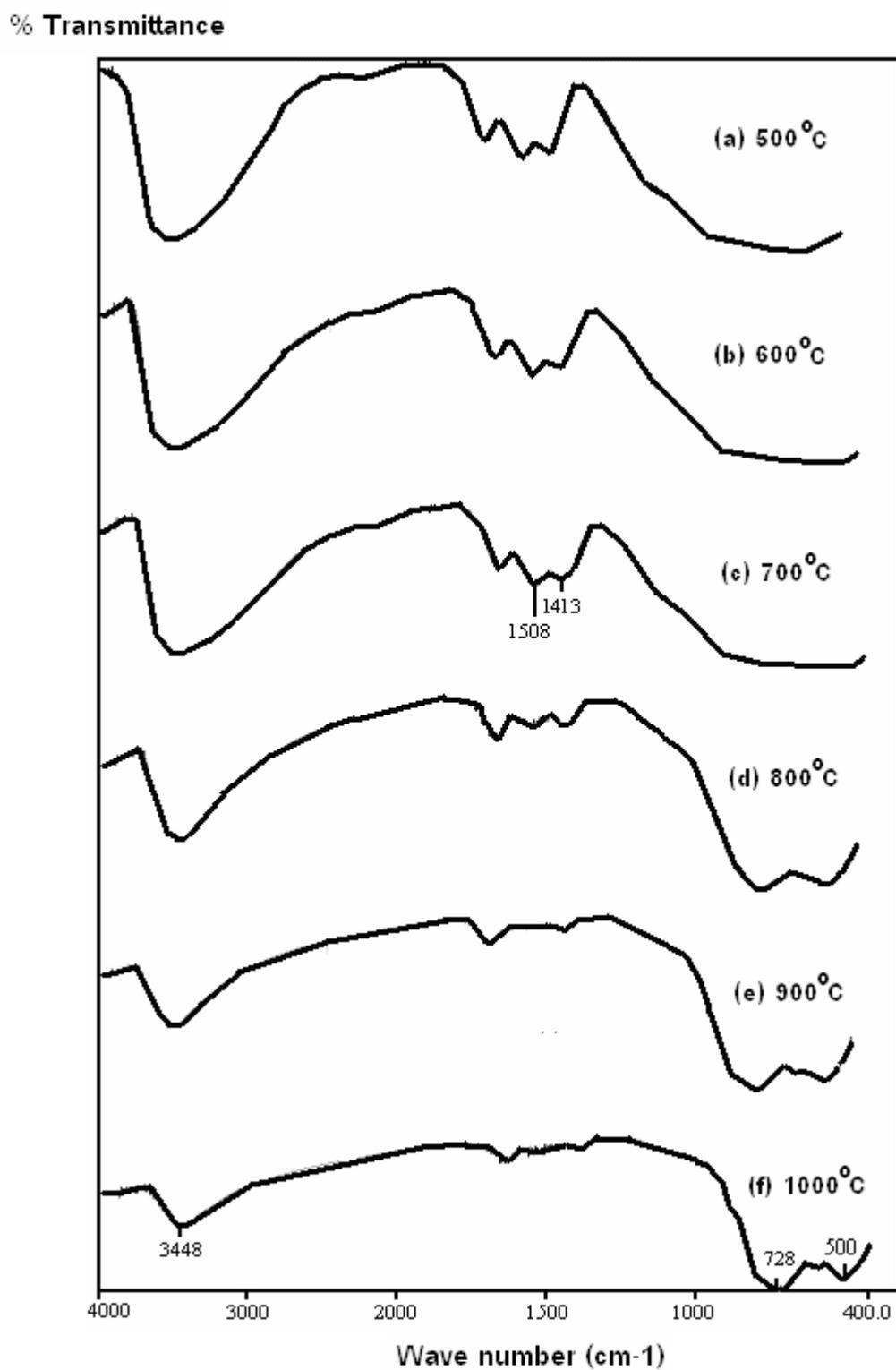


Figure D4 Representative FTIR spectra of SPCI precursor calcined at different temperature (a) 500°C, (b) 600°C, (c) 700°C, (d) 800°C, (e) 900°C (f) 1000°C

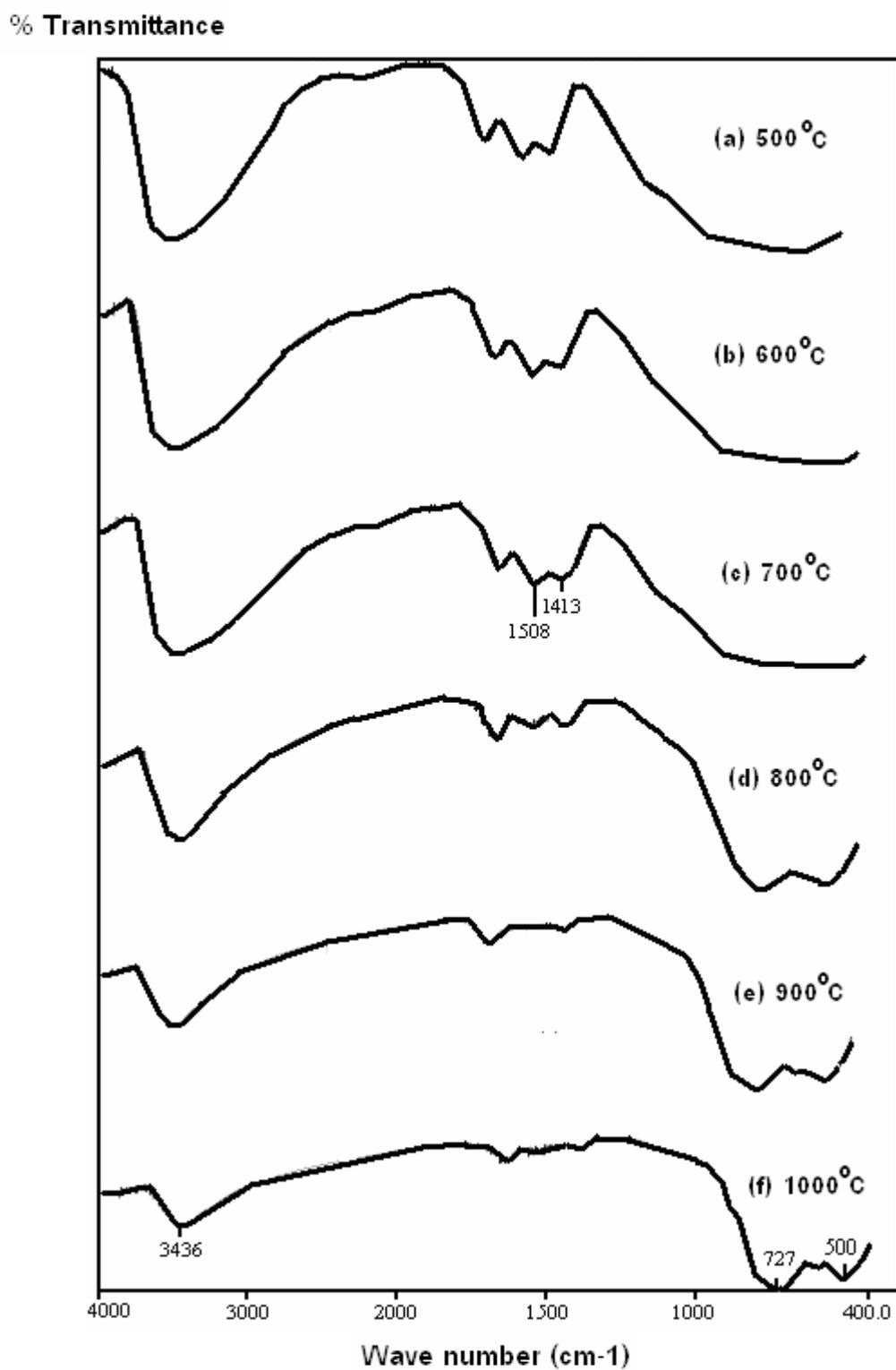


Figure D5 Representative FTIR spectra of SPOH precursor calcined at different temperature (a) 500°C, (b) 600°C, (c) 700°C, (d) 800°C, (e) 900°C (f) 1000°C

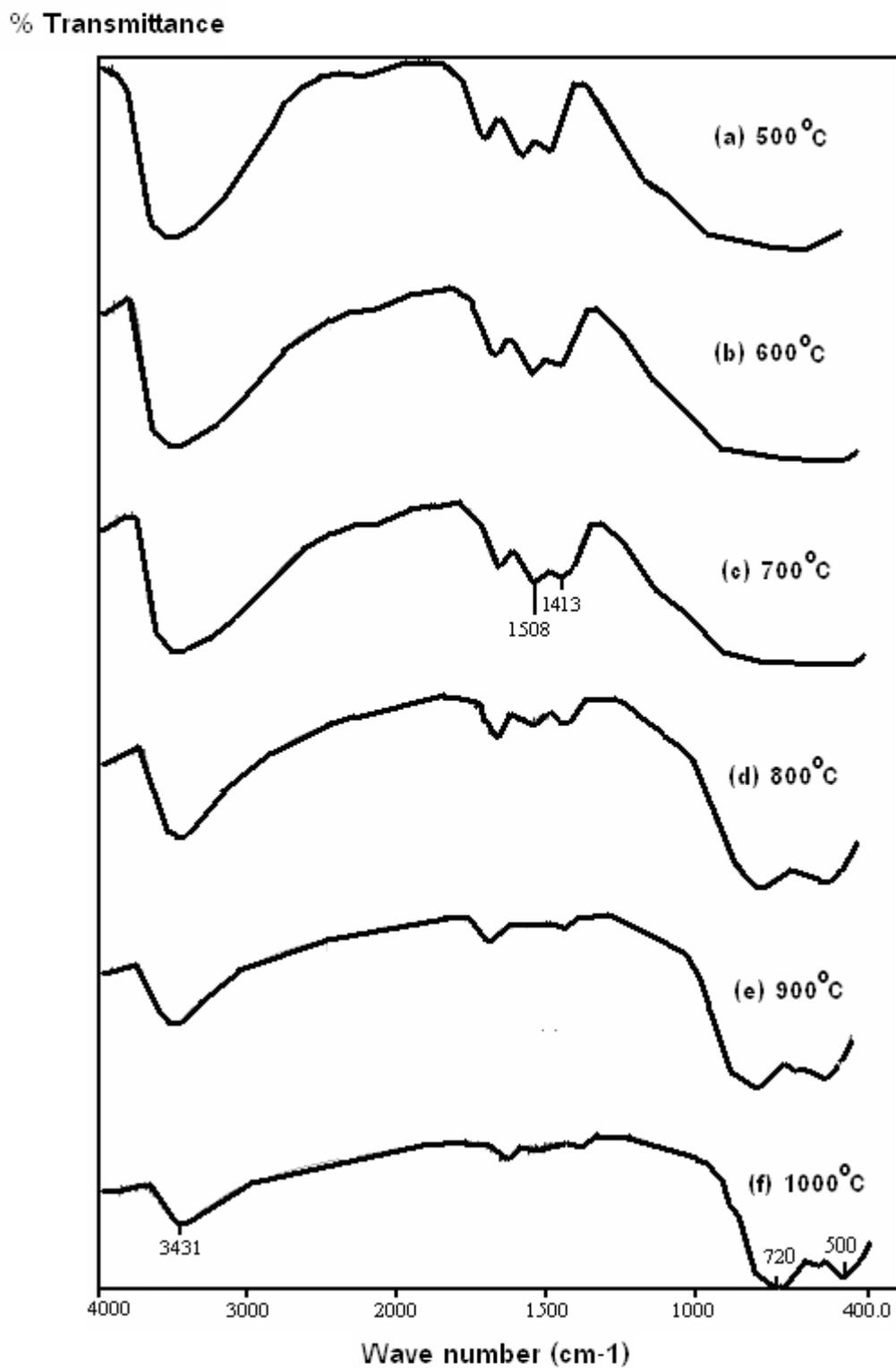


Figure D6 Representative FTIR spectra of SPAc precursor calcined at different temperature (a) 500°C, (b) 600°C, (c) 700°C, (d) 800°C, (e) 900°C (f) 1000°C