Supplementary Material (ESI) for New Journal of Chemistry

High Temperature Treatment of Ordered Mesoporous Carbons Prepared by using Various Carbon Precursors and Ordered Mesoporous Silica Templates

Kamil P. Gierszal, Mietek Jaroniec,* Tae-Wan Kim, Jeongnam Kim, Ryong Ryoo*

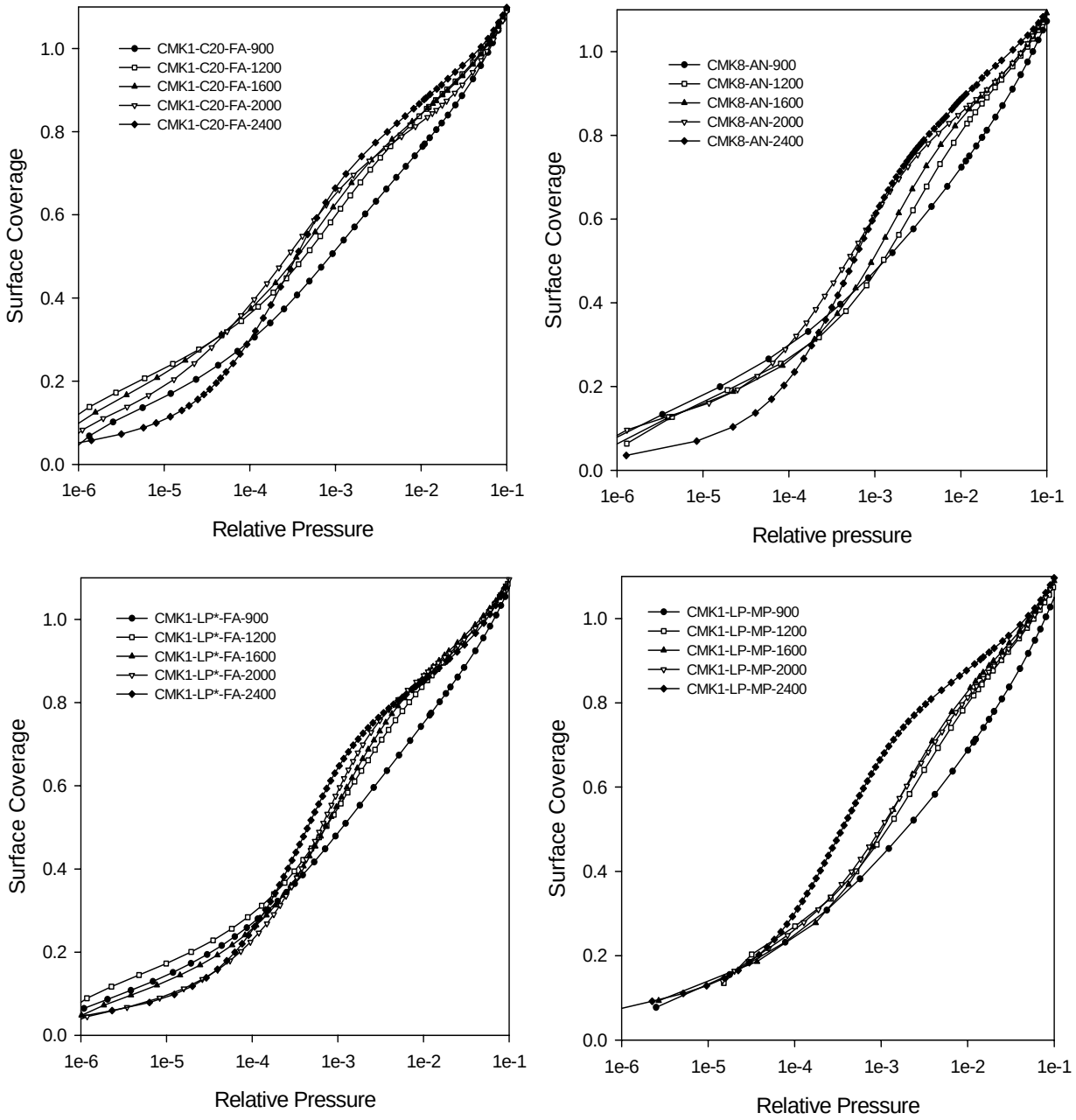

Figure ESI-1. Low-pressure adsorption isotherms plotted at a semi-logarithmic scale for series of the CMK1-C20-FA, CMK8-AN, CMK1-LP*-FA and CMK1-LP-MP carbons.

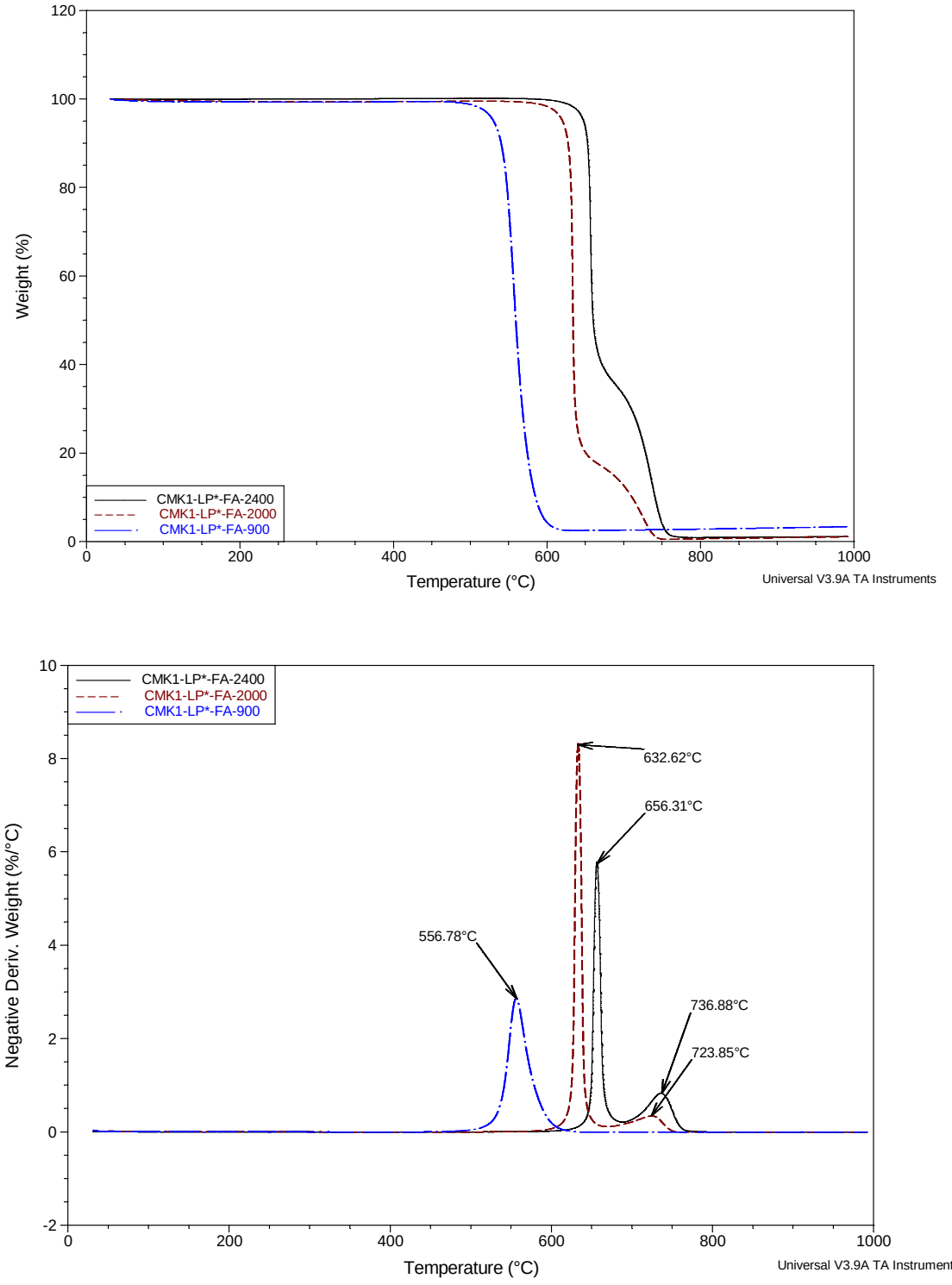

Figure ESI-2. TG (top) and DTG (bottom) profiles for the CMK1-LP*-FA samples prepared at 900, 2000 and 2400 °C. While one-step oxidation profile is visible for the sample at 900 °C, the samples graphitized at 2000 and 2400°C show two-step weight loss profiles. The second weight loss (at higher temperature) is related to the oxidation of graphitic domains; it is about 17% and 35% for the carbons graphitized at 2000 and 2400°C, respectively.

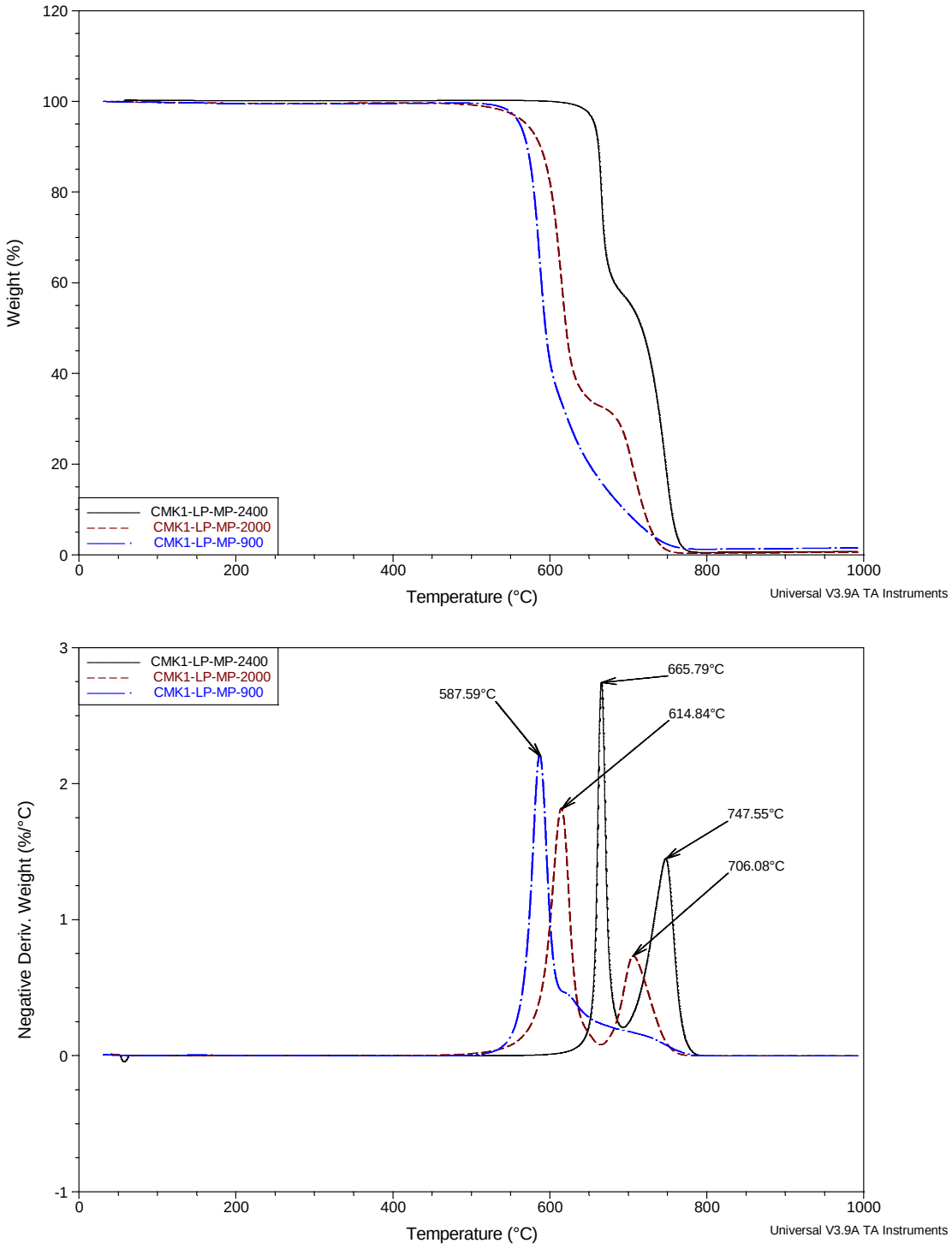

Figure ESI-3. TG (top) and DTG (bottom) profiles for the CMK1-LP-MP samples prepared at 900, 2000 and 2400 °C. The second weight loss (at higher temperature) is related to the oxidation of graphitic domains; it is about 33% and 49% for the carbons graphitized at 2000 and 2400°C, respectively.

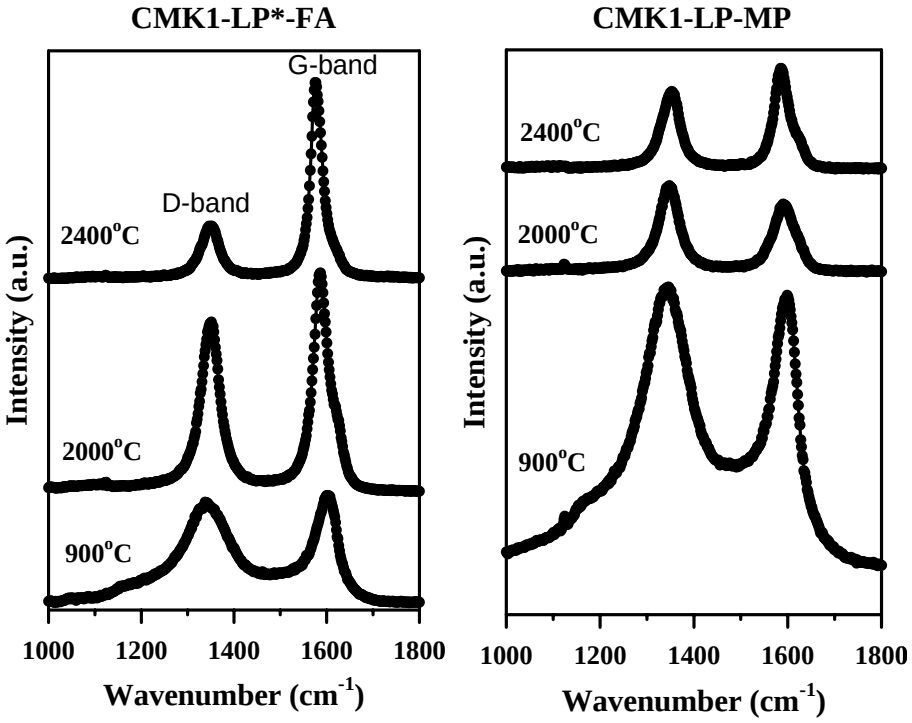

Fig. ESI-4 Raman spectra for the CMK1-LP*-FA and CMK1-LP-MP carbons prepared at 900, 2000 and 2400 °C; these spectra were collected on a high-resolution dispersive Raman microscope (LabRAM HR UV/Vis/NIR, Horiba Jobin Yvon), by the addition of four spectra with collection times of 40s each. The measurement was performed with a 514.5 nm line of an argon ion laser at room temperature. The integrated intensity ratio for the D and G bands (I_D/I_G) is given below:

Sample	I_D/I_G
CMK1-LP*-FA-900	1.92
CMK1-LP*-FA-2000	0.91
CMK1-LP*-FA-2400	0.34
CMK1-LP-MP-900	1.82
CMK1-LP-MP-2000	1.17
CMK1-LP-MP-2400	0.82