Supporting information

Nanocasting of High Surface Area Mesoporous Ga$_2$O$_3$ and GaN

Semiconductor Materials

Colin West, Robert Mokaya

School of Chemistry, University of Nottingham, University Park, Nottingham NG7 2RD, United Kingdom

Supporting Figure S1. Wide angle powder XRD patterns of (a) SBA-15 silica, (b) CMK-3 carbon, (c) CMK-3/Ga composite, (d) C-GaO and (e) MGaO.
Supporting Figure S2. TEM images of mesoporous carbon CMK-3 and composite C-GaO.
Supporting Figure S3. Higher resolution TEM images of mesoporous Ga₂O₃ (sample MGaO) showing evidence crystalline ordering of the wall framework.
Supporting Figure S4. Diffuse reflectance absorption spectra of mesoporous Ga$_2$O$_3$ (sample MGaO). The insert showed the plots used to estimate the band gap energy.
Supporting Figure S5. Powder XRD patterns of nanostructured GaN (a) sample MGaN1 and (b) sample MGaN2.
**Supporting Figure 6S.** TEM images of nanoporous GaN (sample MGaN1).