Electronic Supplementary Material (ESI) for RSC Advances.

Graphene Oxide as Catalyst for Ring Opening Reactions in Amine Crosslinking of Epoxy Resins

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Supporting Information

Characterization techniques

Elemental analysis

Elemental analysis was performed with a Thermo FlashEA 1112 Series CHNS-O analyzer, after pretreating samples in an oven at 100 °C for 12 h, in order to remove the absorbed water.

TABLE S1. Results of elemental analysis on the starting graphite (HSAG) and on the derived oxidized samples.[a]

Sample	C (wt%)	H (wt%)	N (wt%)	O (wt%)	S (wt%)	C/O
HSAG	99.8	0.1	0.1	0.0	0.0	/
GO	63.7	0.6	0.1	33.7	1.9	1.9
eGO	66.1	0.5	0.1	31.4	1.9	2.1

[a] Elemental composition of the anhydrous samples: water contents of nearly 5 %wt. and 6 %wt. are evaluated by TGA for GO and eGO, respectively.

BET analysis

Nitrogen adsorption at liquid nitrogen temperature (-196 °C) was used to measure surface areas of the fillers with a Nova Quantachrome 4200e instrument. Before the adsorption measurement, samples were degassed at 100 °C under nitrogen flow overnight to remove water, and the surface area values were determined by using 11-point BET analysis

The surface area value for HSAG, GO and eGO are 308, 1.6 and 4.6 m^2/g with correlation factor r= 0.9996

FTIR spectroscopy

FTIR spectra were obtained at a resolution of 2.0 cm^{-1} with a FTIR (BRUKER Vertex70)spectrometer equipped with deuterated triglycine sulfate (DTGS) detector and a KBr beam splitter, using KBr pellets. The frequency scale was internally calibrated to 0.01 cm^{-1} using a He-Ne laser. 32 scans were signal averaged to reduce the noise.

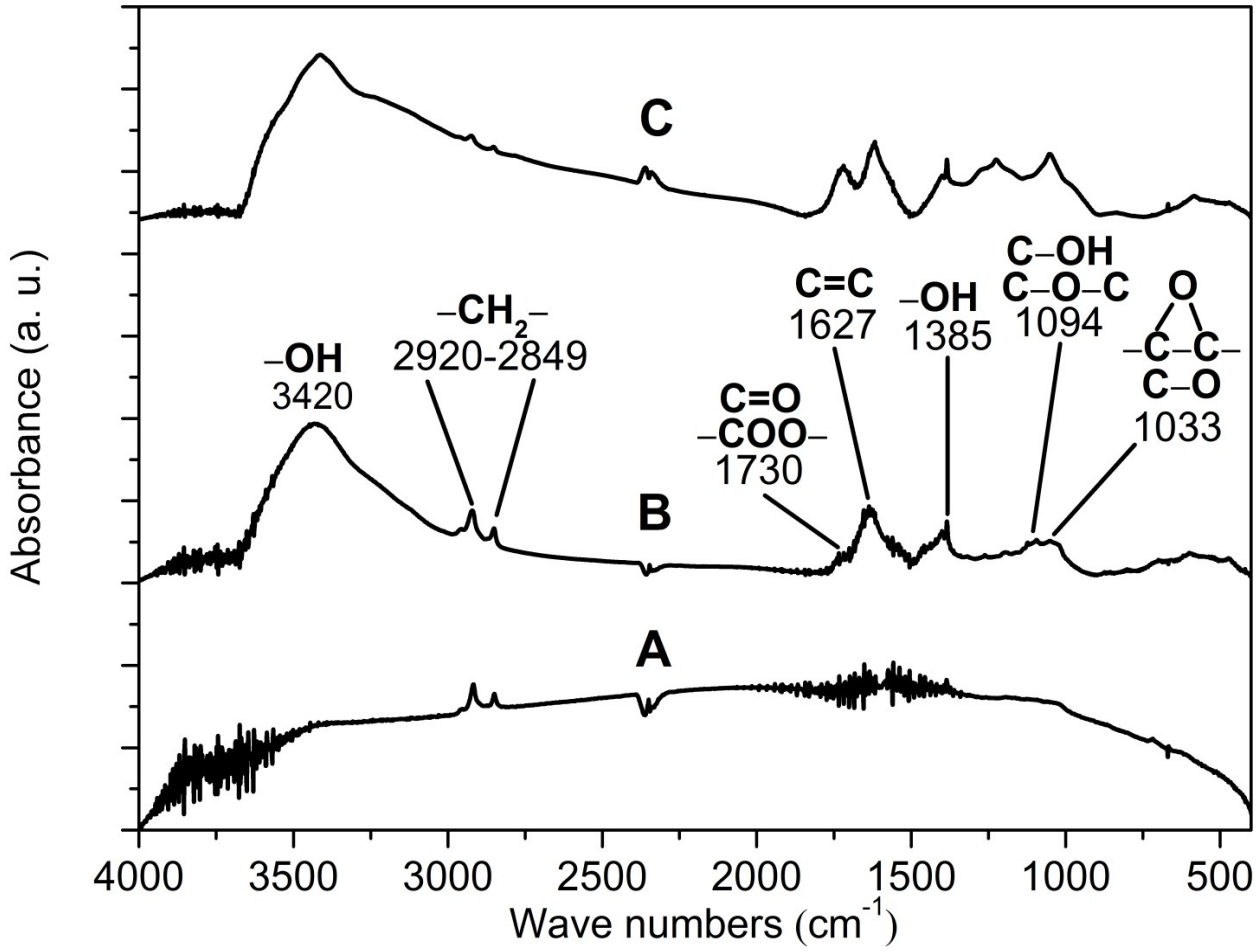

FIGURE S1.FTIR spectra in the range 4000-400 cm-1 of:the starting graphite (A), of the derived GO (B) and eGO (C).