

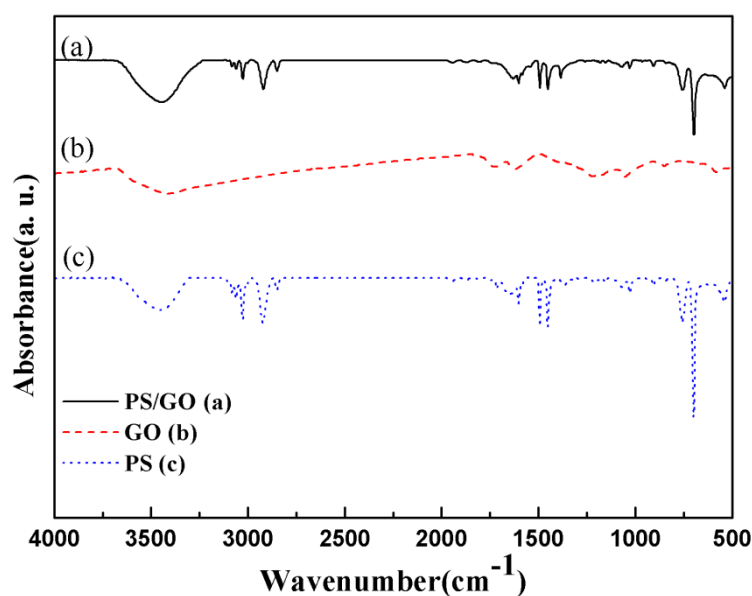
Electronic supplementary information

# Pickering emulsion-fabricated smart microspheres of polystyrene/graphene oxide and their electrorheology

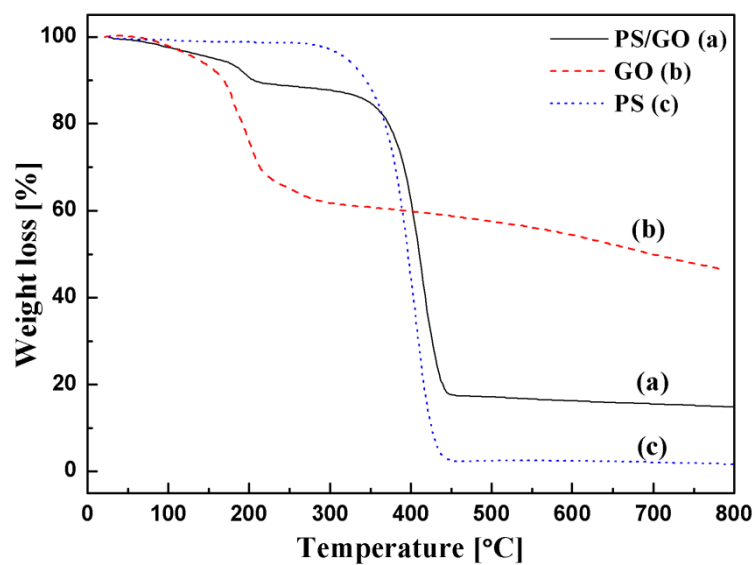
*Sang Deuk Kim, Wen Ling Zhang, Hyoung Jin Choi\**

Department of Polymer Science and Engineering, Inha University, Incheon, 402-751, Korea

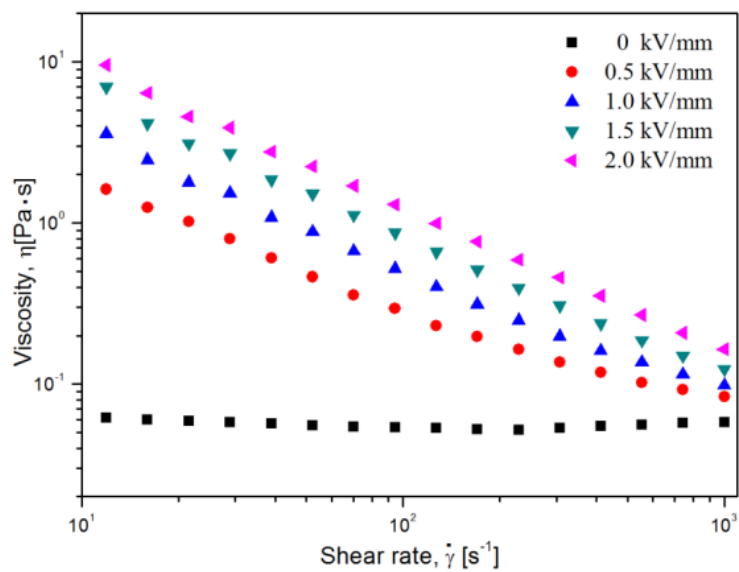
Corresponding author: E-mail: [hjchoi@inha.ac.kr](mailto:hjchoi@inha.ac.kr)



**Figure S1** FT-IR spectra of PS/GO microsphere (a), bare GO (b) and pure PS (c).



**Figure S2** TGA curves of PS/GO microspheres (a), GO (b) and pure PS (c).



**Figure S3** Shear viscosity curves vs. shear rate for PS/GO microspheres based ER fluid (10vol% particle concentration).

**Table S1** Fitting parameters of Bingham, CCJ model, SCS model equations to the flow curves of PS/GO microsphere-based ER fluid

Model	Parameters	Electric field strength/kV mm <sup>-1</sup>			
		0.5	1.0	1.5	2.0
Bingham	$\tau_0$	19.3	42.7	83.7	114
	$\eta$	0.083	0.099	0.124	0.165
CCJ	$\tau_0$	19.3	42.7	83.7	114
	$t_1$	0.002	0.001	0.0008	0.001
	$\alpha$	0.2	0.35	0.5	0.85
	$\eta_\infty$	0.083	0.099	0.124	0.165
	$t_2$	0.011	0.012	0.5	0.7
	$\beta$	0.95	0.95	0.95	0.95
SCS	$\tau_0$	25	49	102	172
	$\eta$	0.065	0.06	0.04	0.041
	a	0.72	0.5	0.49	0.37
	$\alpha$	0.5	0.6	0.3	0.2