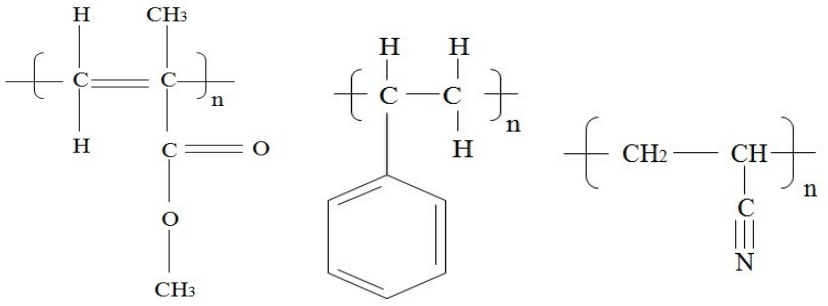
Electronic Supplementary Material (ESI) for RSC Advances.



(a) **(b)** **(c)**

Figure S.1. The Chemical structures of (a) PMMA, (b) PS, and (c) PAN polymers

Table S.1. Electrospraying parameters of PS-TEGO, PMMA-TEGO, and PAN-TEGO spheres

Polymer type	Polymer concentration (wt%)	Solvent	TEGO amount (wt%)	Flowrate (μL/min)	Voltage (kV)	Distance (cm)
PMMA	20	DMF	0	13	13	10
	20	DMF	0.005	17	15	10
	20	DMF	0.01	18	16	10
	20	DMF	0.02	17	15	10
PS	20	DMF	0	13	13	10
	20	DMF	0.005	16	16	10
	20	DMF	0.01	17	16	10
	20	DMF	0.02	17	16	10
PAN	5	DMF	0	15	13	10
	5	DMF	0.02	18	15	10
	3.5	DMF	0.05	14	13	10

Table S.2. The positions and intensities of D, G, 2D peaks, I_D/I_G and I_G/I_{2D} values of untreated TEGO, sonicated and electrosprayed TEGO

	D		G		2D		I_D/I_G	I_G/I_{2D}
	Position (cm^{-1})	Intensity (a.u.)	Position (cm^{-1})	Intensity (a.u.)	Position (cm^{-1})	Intensity (a.u.)		
TEGO	1346	4297	1575	20033	2713	8590	0.2	2.3
Sonicated TEGO	1352	2047	1578	18346	2717	9111	0.2	2.0
Electrosprayed TEGO	-	-	1581	24014	2721	11829	-	2.0

Table S.3. Mark-Houwink-Sakurada constants for PMMA, PS, and PAN polymers at room temperature.

Polymer type	Solvent	a	K_H (10^{-3} mL/g)	Ref.
PMMA	DMF	0.625	25	[1]
PS	DMF	0.603	31.8	[2]
PAN	DMF	0.780	17.7	[3]

Table S.4. XRD diffraction peak intensities and positions of TEGO based PMMA and PS based spheres

	TEGO amount (wt%)	XRD polymer peak intensity	2Θ of polymer peak
PMMA	0	305	14.4
	0.005	287	13.9
	0.01	189	13.7
	0.02	184	13.5
PS	0	205	19.9
	0.005	169	19.6
	0.01	152	19.5
	0.02	150	19.2

Table S.5. Raman intensities of PS and PS-0.02 wt% TEGO spheres

TEGO amount (wt%)	Intensity of 3050 cm^{-1} peak	Intensity of 2900 cm^{-1} peak	Intensity of 1600 cm^{-1} peak	Intensity of 995 cm^{-1} peak
0	48003	22031	9870	66635
0.02	14170	7269	3701	21170

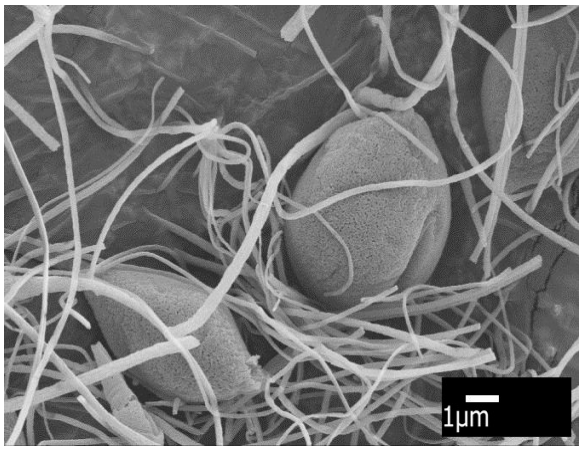


Figure S.2. SEM image of PMMA spheres containing 0.02 wt% TEGO using methanol as a core material with the flow rate of 5 μL/min

References

1. Wagner H. The Mark-Houwink-Sakurada Relation for Poly (Methyl Methacrylate). *J Phys Chem Ref data*. 1987;16:165-173. http://scitation.aip.org/content/aip/journal/jpcrd/16/2/10.1063/1.555776\nhttp://jpcrd.aip.org/resource/1/jpcrbu/v16/i2.

2. Wagner HL. The Mark–Houwink–Sakurada Equation for the Viscosity of Atactic Polystyrene. *J Phys Chem Ref Data*. 1985;14:1101. doi:10.1063/1.555740.

3. http://www.ampolymer.com/Mark-HouwinkParameters.html.