Supplementary Information

Physicochemical modifications on thin films of polyethylene-terephthalate and its nanocomposite with expanded graphite nanostructured by ultraviolet and infrared femtosecond laser irradiation

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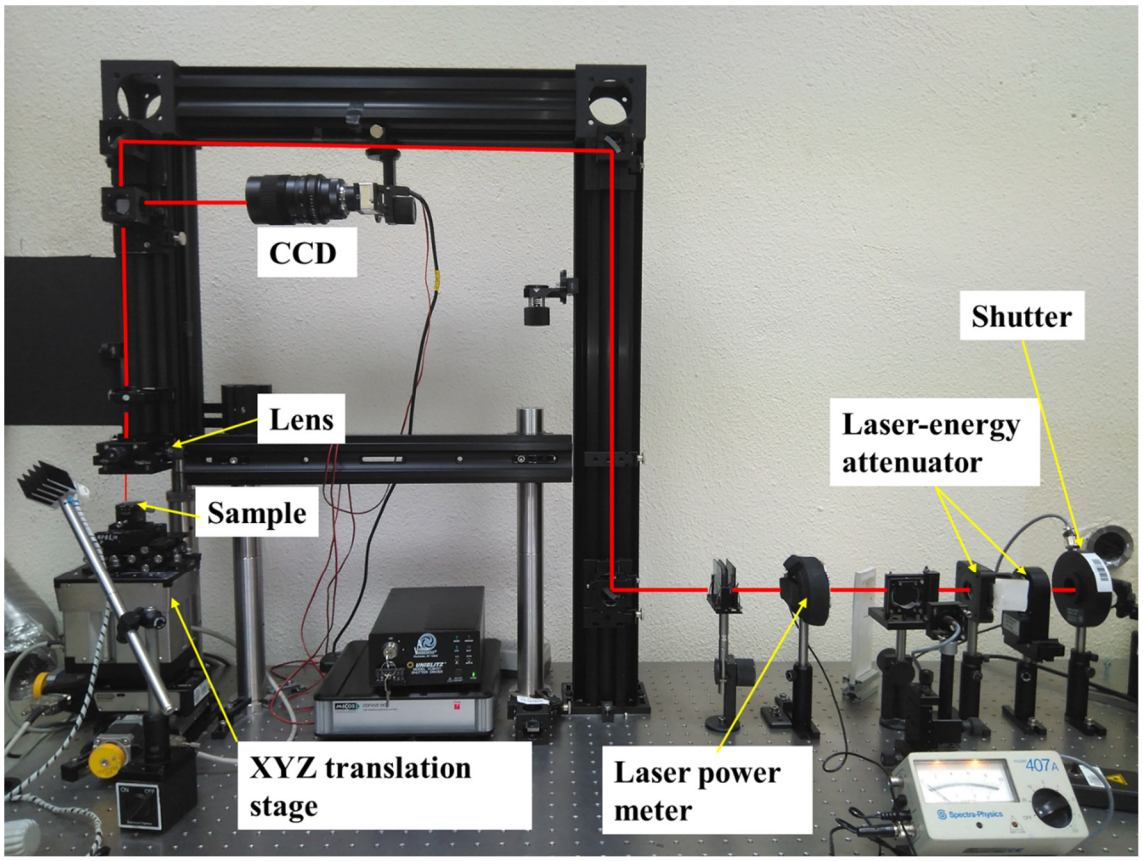

Figure S1. Experimental set-up used for LIPSS formation with NIR fs irradiation.

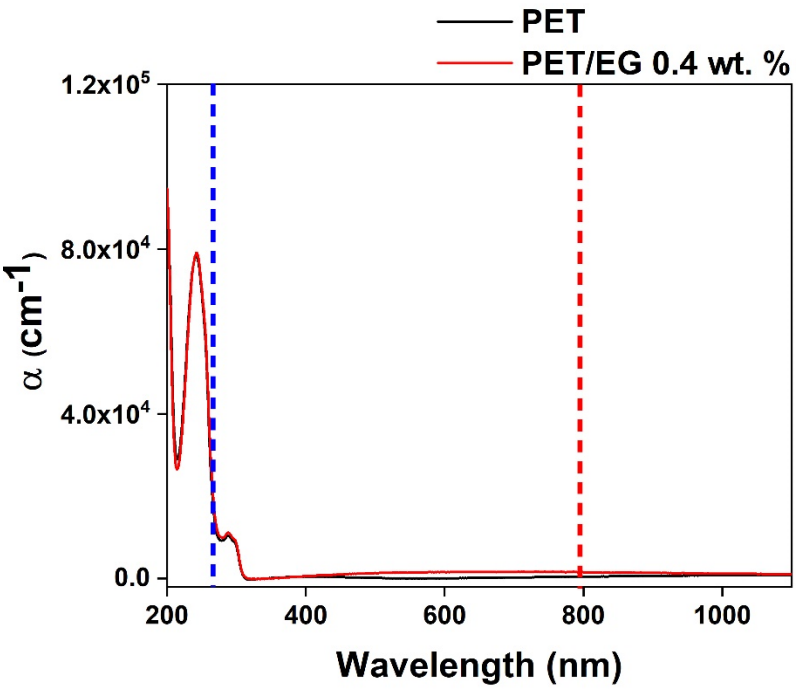

Figure S2. Absorption spectra corresponding to PET and PET/EG 0.4 wt.%

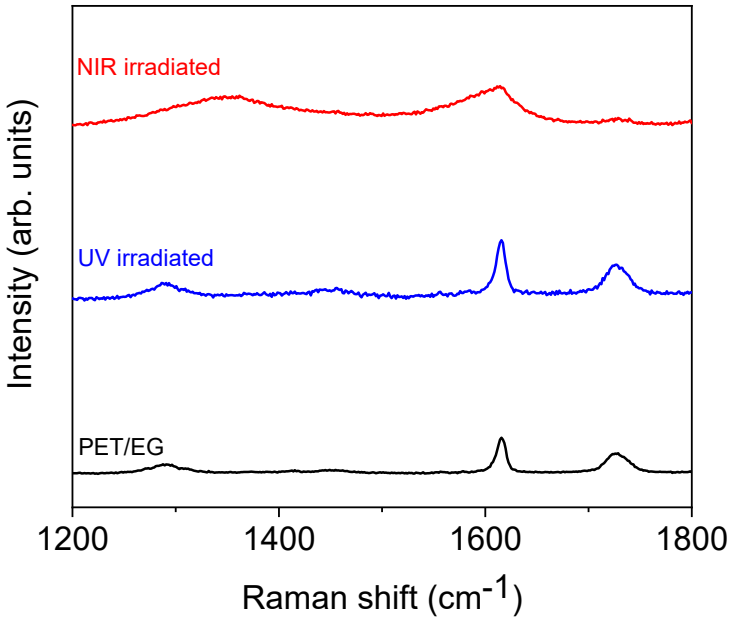

Figure S3. Micro-Raman spectra (λ_{exc} = 532 nm) of non-irradiated PET/EG and PET/EG irradiated with UV and NIR wavelengths. Spectra were shifted vertically for the sake of comparison.

Table S1. Weight average molar mass (Mw), Number average molar mass (Mn), dispersity (Mw/Mn) and mass crystallinity (Xc) for the PET and its composite [39]

	M_w x10^4 g/mol	M_n x10^4 g/mol	M_w/M_n	X_c (%)
PET	4.69	1.95	2.41	12
PET/EG 0.4 wt. %	3.85	1.56	2.47	34.7

Table S2. Surface energy and its components (mJ/m²) of the probe liquids [40].

	Surface energy components (mJ/m²)				
Material	γ_S^d	γ_S^p	γ_S^-	γ_S^+	γ_S^{TOT}
Water	21.8	51.0	25.5	25.5	72.8
Glycerol	34.0	30.0	57.4	3.92	64.0
Paraffin-oil	28.9	0	0	0	28.9