### **Supplementary Material**

# Preparation of high strength SEBS nanocomposites reinforced with halloysite nanotube: Effect of SEBS-g-MA compatibilizer

Nazlı Arman, Emre Tekay and Sinan Şen

Department of Polymer Engineering, Yalova University, Yalova, 77200, Turkey Corresponding author: Sinan Şen

Email: sinans@yalova.edu.tr



#### **XRD** Analyses of HNT Clays

Figure S1. X-ray diffractograms of HNT and Org-HNT clays.

Table S1. XRD data of neat HNT and Org-HNT clays.

Plane	HNT	Org-HNT
<b>d</b> 001, Å <sup>a</sup>	7.27 (12,16°)	7.41 (11,92°)
<b>d</b> 020, Å <sup>a</sup>	4.43 (20,02°)	4.40 (20,12°)
<b>d</b> 002, Å <sup>a</sup>	3.63 (24,48°)	3.63 (24,45°)

### SEM Analyses of SEBS polymer



## EDAX APEX

Smart Quant Results

Element	Weight %	Atomic %	
New Project	New Sample   Ar	rea 313   Full Area 1	
СК	96.18	97.34	
OK	3.08	2.34	
SiK	0.74	0.32	

**Figure S2.** SEM images of neat SEBS at low (1000 x) and high (20000 x) magnifications and EDAX analysis (1000 x).





EDAX APEX



#### Smart Quant Results

Element	Weight %	Atomic %	Error %
OK	49	63.04	7.98
NaK	1.11	0.99	12.43
AIK	1.97	1.5	5.5
SiK	45.44	33.3	3.06
КK	0.68	0.36	14.14
CaK	0.51	0.26	18.67
TiK	1.3	0.56	7.59

**Figure S3.** SEM image and EDAX analysis of the white residue remained after burning neat SEBS sample at 600 °C in a muffle furnace



FTIR Analysis of SEBS-g-MA polymer

Figure S4. FTIR spectrum of SEBS-g-MA.

### TGA Analysis of SEBS-g-MA polymer



Figure S5. TGA thermogram of SEBS-*g*-MA and its derivative curve.