Supporting Information

Simulation of Neutron/Self-Emitted Gamma Attenuation and Effects of Silane Surface Treatment on Mechanical and Wear Resistance Properties of Sm_2O_3/UHMWPE Composites

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Table S1. Comparative mass attenuation coefficients (μ_m) of Sm_2O_3/UHMWPE composites and their percentage of differences between the values determined from PHITS and XCOM at the gamma energies of 0.334, 0.712, and 0.737 MeV.

Sm_2O_3 content (wt%.)	0.334-MeV gamma rays			0.712-MeV gamma rays			0.737-MeV gamma rays		
	PHITS	XCOM	Difference (%)	PHITS	XCOM	Difference (%)	PHITS	XCOM	Difference (%)
0	0.1187	0.1169	1.52	0.0861	0.0852	1.05	0.0847	0.0839	0.94
5	0.1213	0.1200	1.07	0.0856	0.0849	0.82	0.0843	0.0835	0.95
10	0.1243	0.1231	0.97	0.0857	0.0846	1.28	0.0841	0.0832	1.07
15	0.1280	0.1263	1.33	0.0857	0.0842	1.75	0.0842	0.0828	1.66
20	0.1301	0.1294	0.54	0.0846	0.0839	0.83	0.0832	0.0824	0.96
25	0.1337	0.1325	0.90	0.0845	0.0836	1.07	0.0828	0.0820	0.97
30	0.1363	0.1356	0.51	0.0840	0.0832	0.95	0.0823	0.0817	0.73
35	0.1396	0.1388	0.57	0.0838	0.0829	1.07	0.0822	0.0813	1.09
40	0.1425	0.1419	0.42	0.0833	0.0826	0.84	0.0816	0.0809	0.86
45	0.1454	0.1450	0.28	0.0829	0.0822	0.84	0.0811	0.0805	0.74
50	0.1490	0.1482	0.54	0.0821	0.0819	0.24	0.0809	0.0817	0.99