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ARTICLE

Improved Tribological and Thermal Properties of Lubricants by Graphene Based Nano-additive

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SUPPLEMENTARY INFORMATION

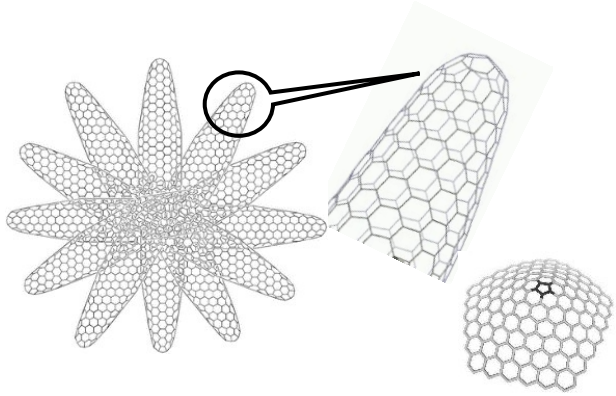

Figure S1. Schematic reproduction of the nanohorns structure.

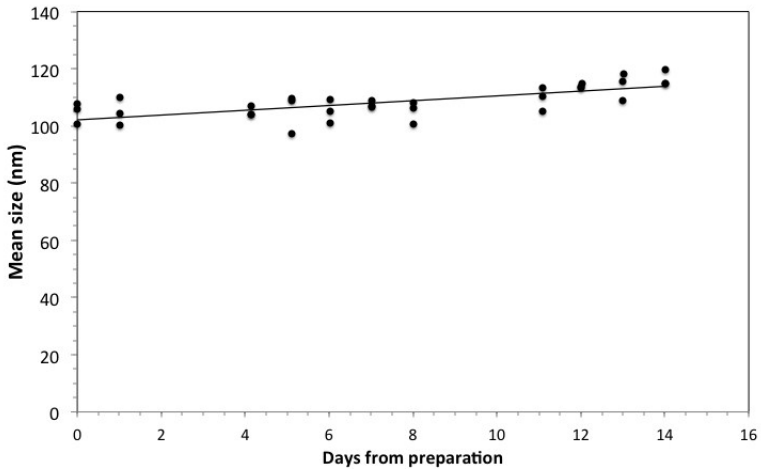

Figure S2. Mean aggregate size measured by DLS for 15 days in PAG+0.1%$_{wt}$ CNHs

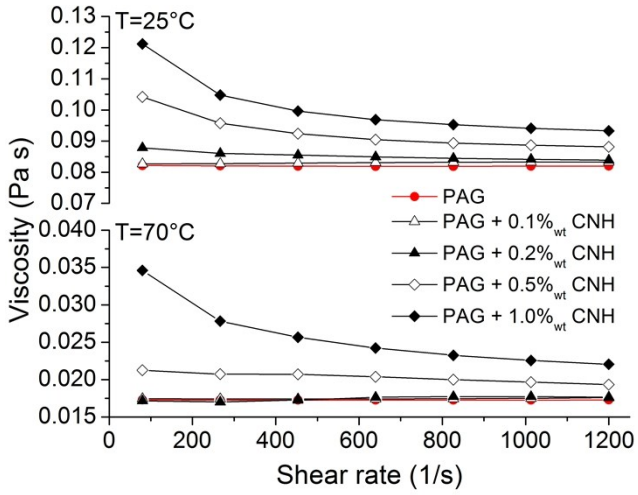

Figure S3. Correlation between viscosity and shear rate.

	CNHs concentration					
Wear coefficient *K*	**0.0%$_{wt}$**	**0.04%$_{wt}$**	**0.1%$_{wt}$**	**0.2%$_{wt}$**	**0.5%$_{wt}$**	**1%$_{wt}$**
T=25°C	$1.2 \cdot 10^{-4}$	$5.0 \cdot 10^{-5}$	$3.8 \cdot 10^{-5}$	$3.0 \cdot 10^{-5}$	$6.3 \cdot 10^{-5}$	$9.0 \cdot 10^{-5}$
T=70°C	$5.1 \cdot 10^{-5}$	$1.8 \cdot 10^{-5}$	$1.3 \cdot 10^{-5}$	$1.7 \cdot 10^{-5}$	$3.4 \cdot 10^{-5}$	$5.6 \cdot 10^{-5}$

Table S4. Estimated wear coefficients K as a function of nanoparticles concentration and test temperature.

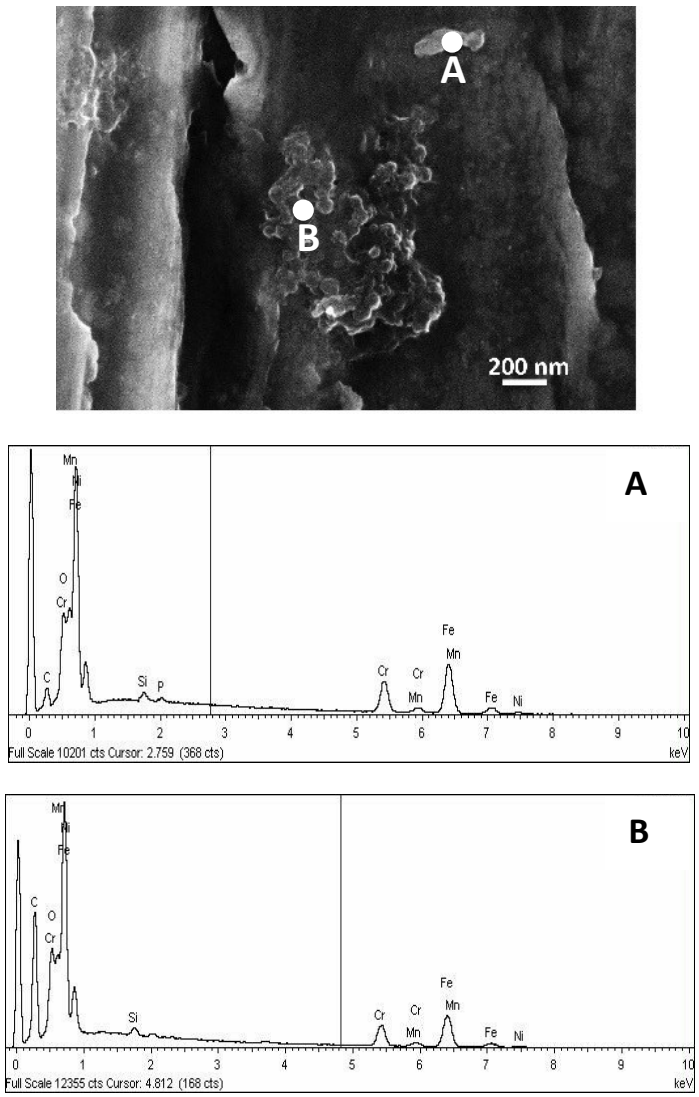

Figure S5. X-EDS analyes of wear track surface: dot A in debris where typical signals of steel were detected (Fe, Mn, Cr, Si), dot B in CNHs where the signals due to carbon was higher.