Branched polyethyleneimine modified carbon nanoparticles as the effective additives of water lubrication

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**Figure S1.** TGA curve of CNPs-PEI.

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**Figure S2.** Selected area EDS analyses of wear scars of the lower balls lubricated by (a) base liquid and (b) CNPs-PEI (0.15 wt%)/base liquid suspension (insets: elemental compositions and SEM images of wear scars).

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