Supplementary Material

Investigating the wettability, rheological, and tribological properties of ammonium-based protic ionic liquids as neat lubricants for steel-steel and steel-aluminium contacts

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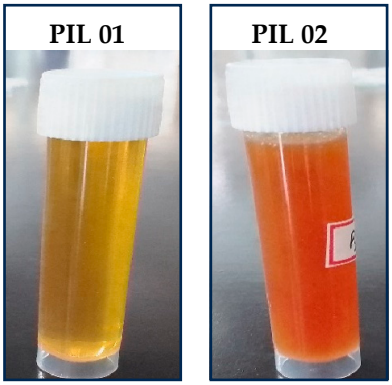
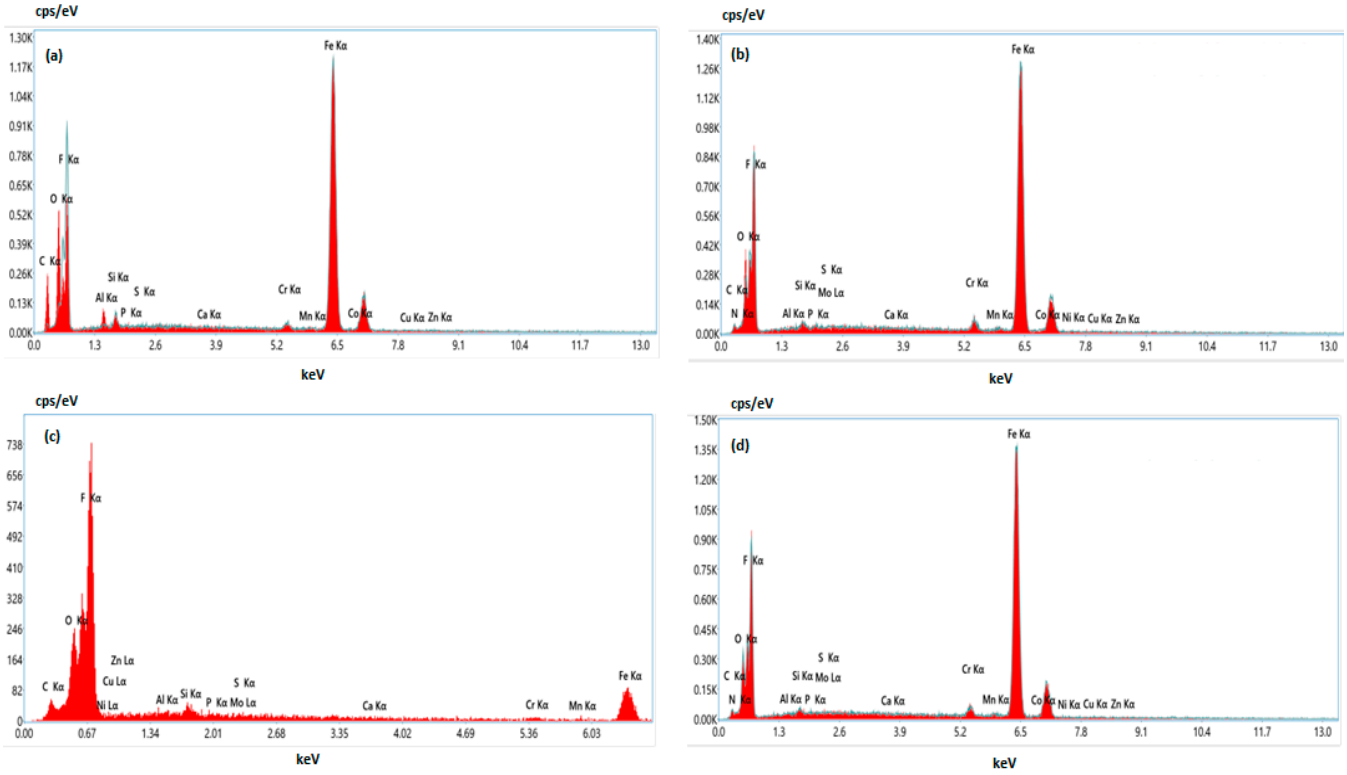


Figure S1. The appearance of the investigated lubricating fluids.



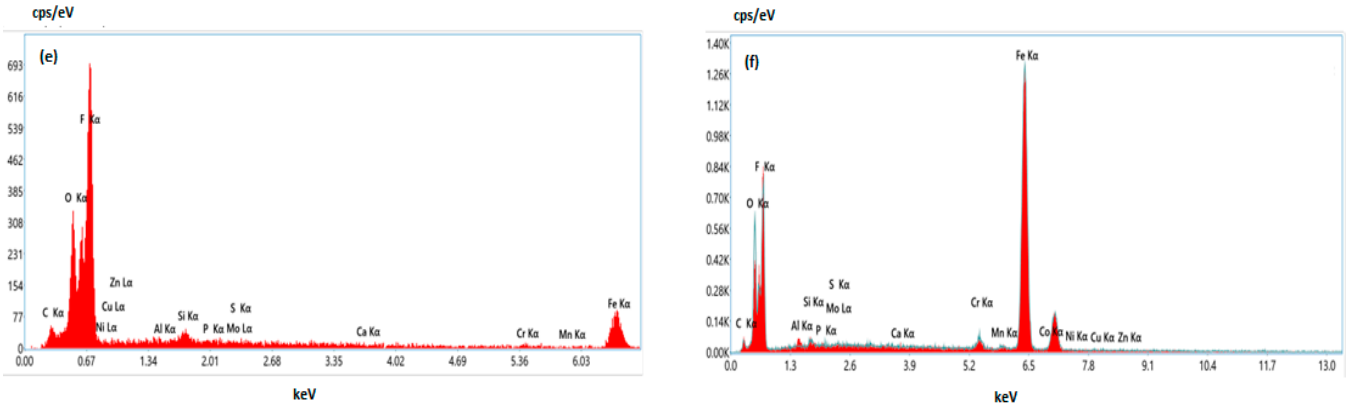


Figure S2. EDS analysis of wear scar surface at 30 °C and 80 °C on BS plate lubricated with (a and b) PIL01, (c and d) PIL02, (e and f) 20W40, respectively.

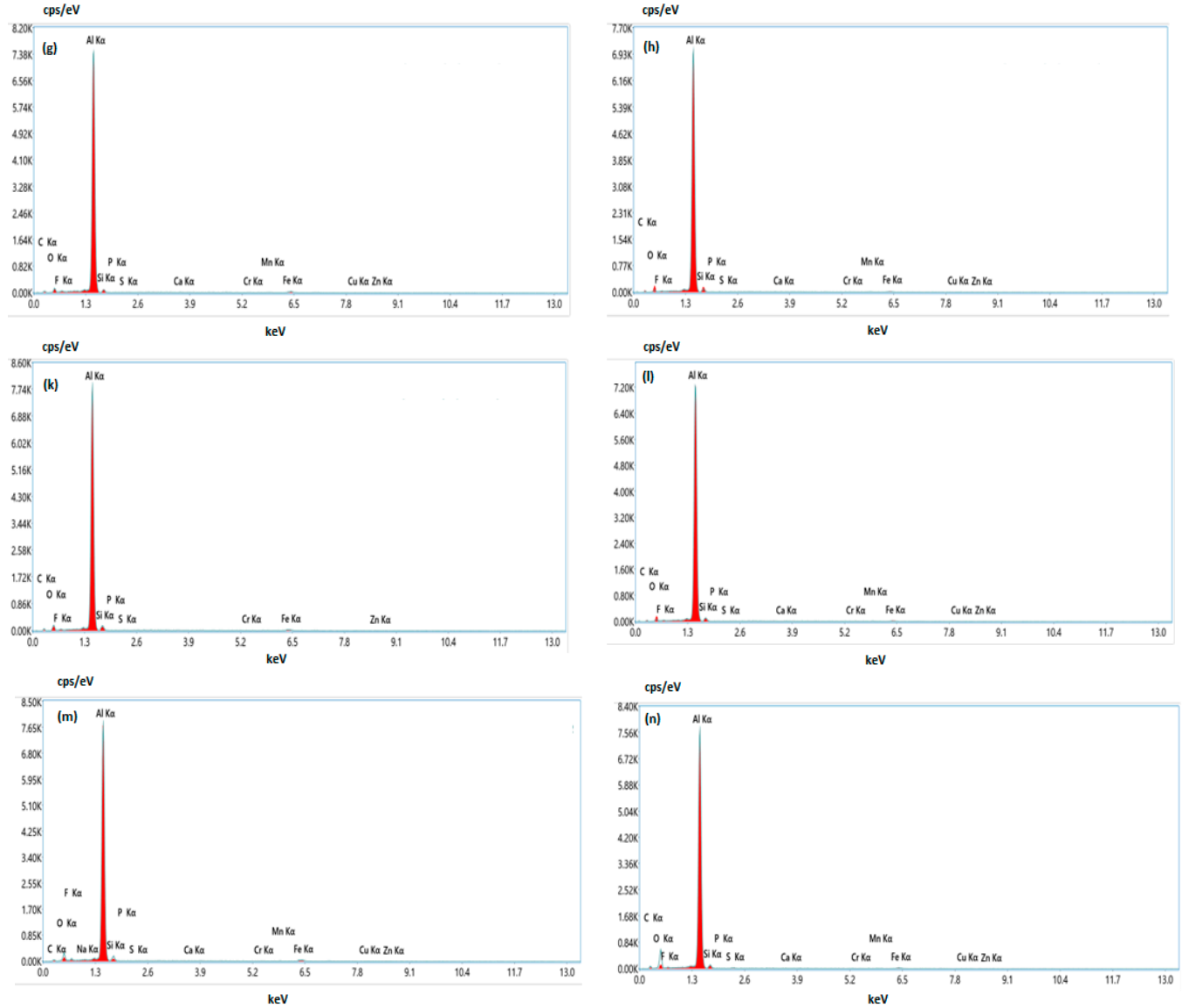


Figure S3. EDS analysis of wear scar surface at 30 °C and 80 °C on AL plate lubricated with (g and h) PIL01, (k and l) PIL02, (m and n) 20W40 respectively.