

Supporting Information

on

Halogen-Free Imidazolium / Ammonium-
Bis(salicylato)borate Ionic Liquids As High
Performance Lubricant Additives

Wear Scar Diameter: The lubrication characteristics of lube oils are measured in terms of friction coefficient and wear scar diameter (WSD). Herein, four ball test machine was used to measure the wear scar diameter. In each test, three steel balls (Diameter: 12.7 mm) are clamped together to form a cradle while a fourth ball is rotated against the three stationary balls on a vertical axis. The loads applied during the tribo-test produces a circular to slight elliptical wear scars on the three stationary balls. At the end of the test, the average diameter of wear scar on the each lower ball is measured considering the length in x and y axis. Finally, we report the average of measured values on three lower balls, which is known as wear scar diameter.



Figure S1: Pictorial view of four balls arrangement during the tribo-test.

Figure S2

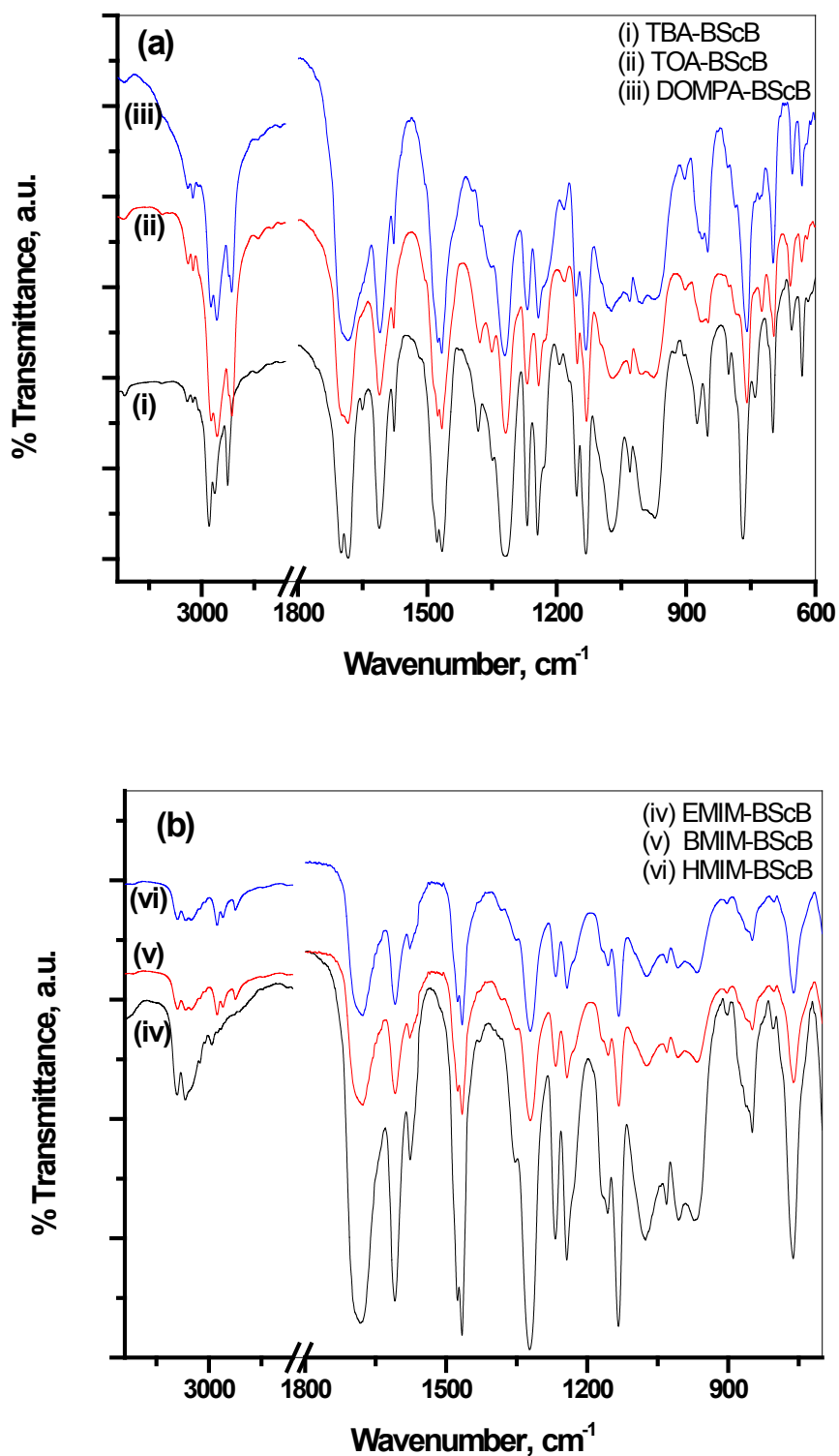


Figure S2 FTIR spectra of (a) ammonium based ionic liquids TBA-BScB, TOA-BScB, and DOMPA-BScB and (b) imidazolium based ionic liquids EMIM-BScB, BMIM-BScB, and HMIM-BScB ionic liquids.