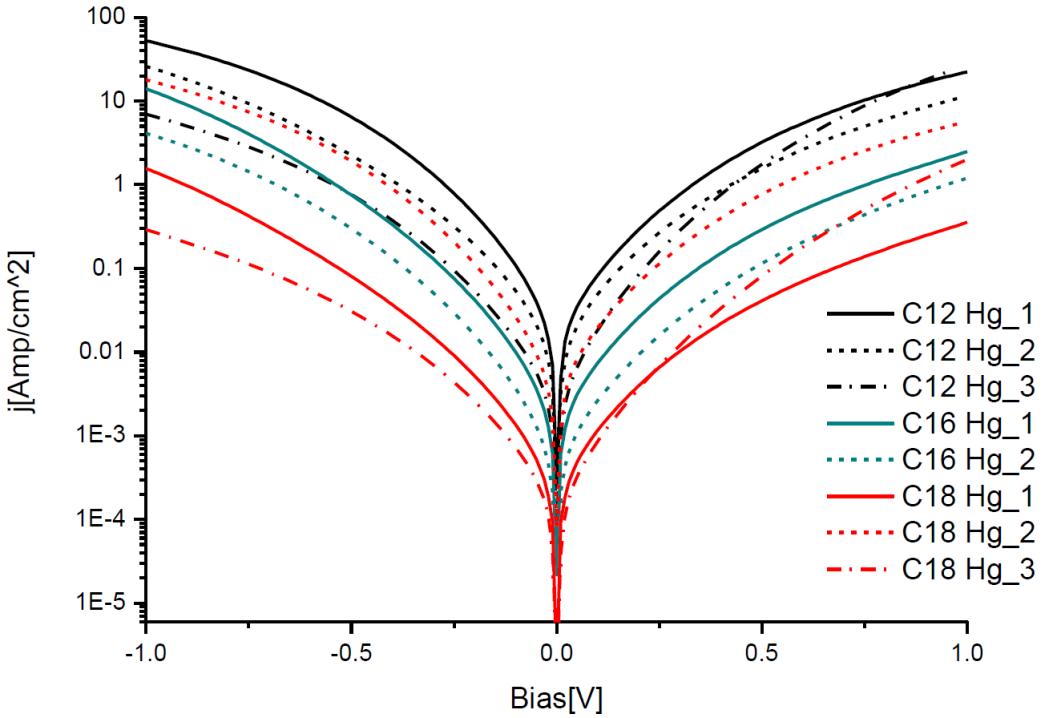
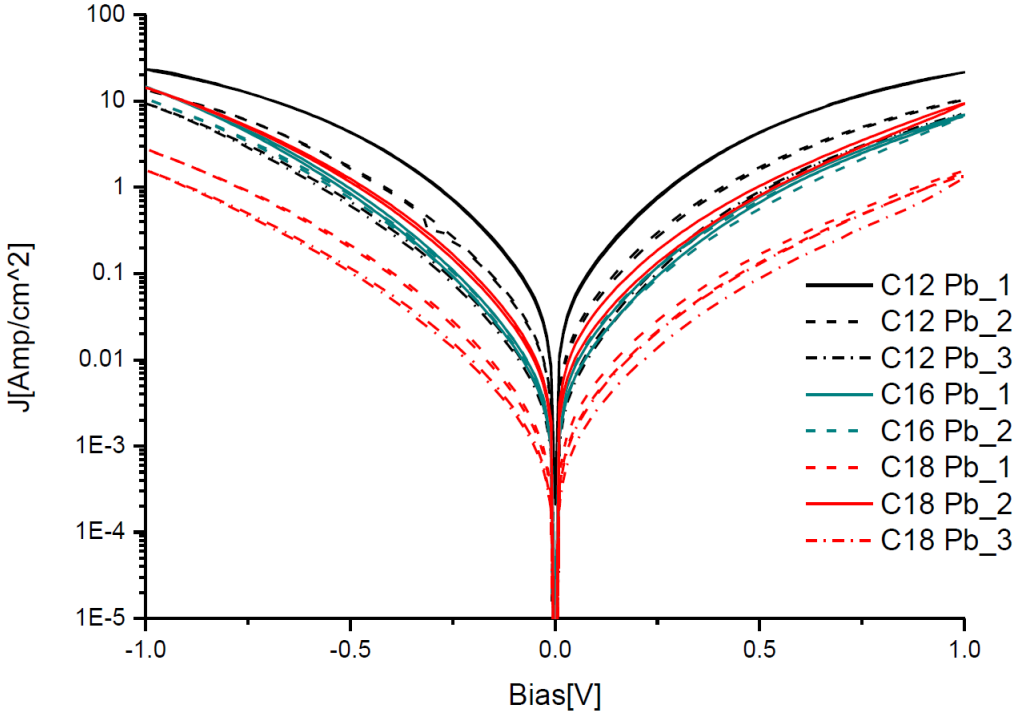
Supporting information for "A new route to non-destructive top-contacts for molecular electronics on Si: Pb evaporated on organic monolayers"

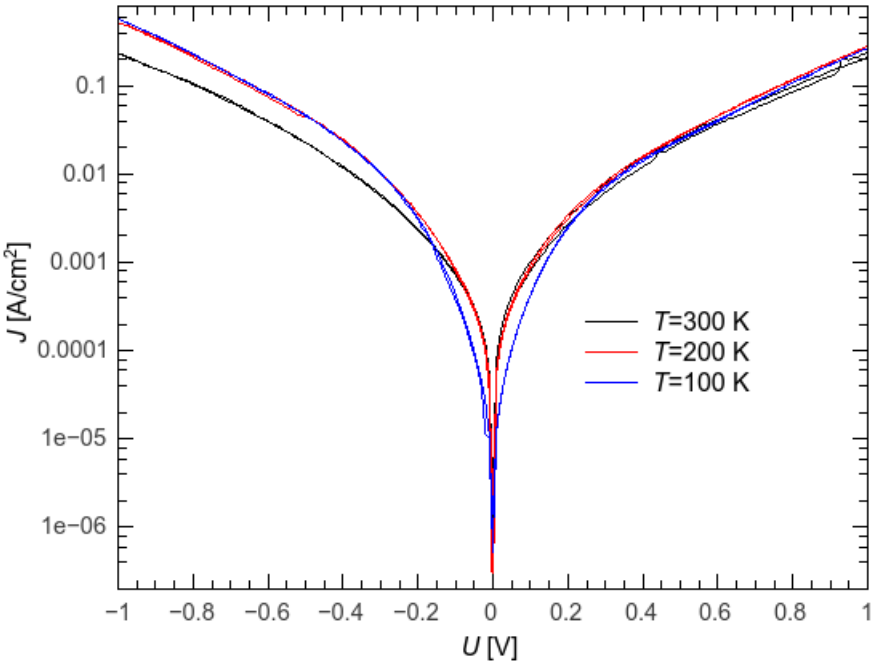
Robert Lovrincic, Olga Kraynis, Rotem Har-Lavan, Abd-Elrazek Haj-Yahya, Wenjie Li, Ayelet Vilan, and David Cahen
Department of Materials and Interfaces, Weizmann Institute of Science, Rehovot 76100, Israel



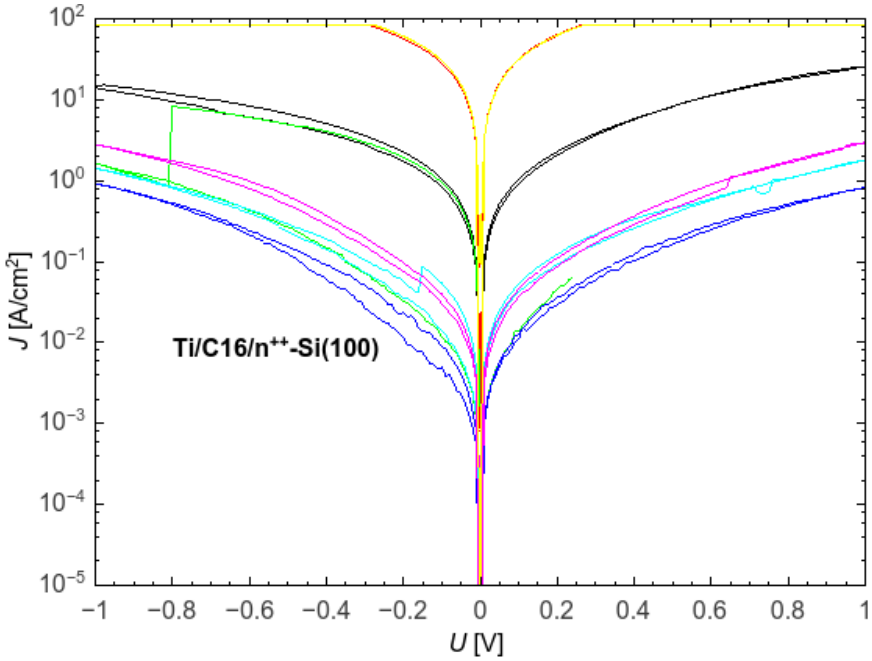
S1: J(V) curves for all measured alkyl-chain samples on highly-doped n-Si(100) with Hg as contact. A length dependence is observed for all samples except C18 Hg_2.



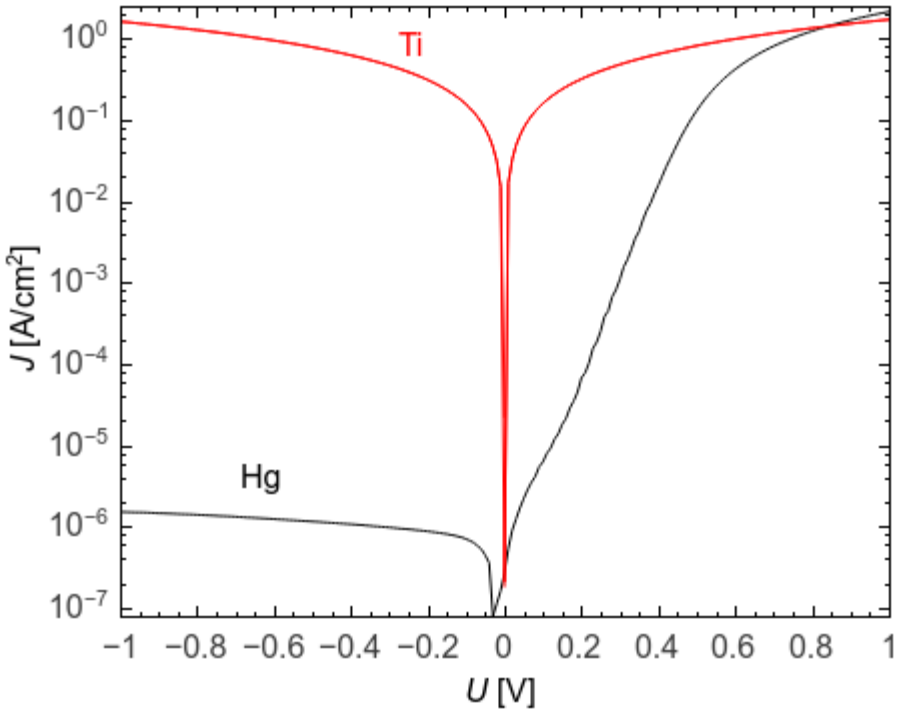
S2: J(V) curves for the same samples as in Fig. S1, now measured with Pb contacts. As with Hg, sample C18 Pb_2 deviates from the length dependence observed for all other samples.



S3: J(V) measurements of a C16 ML on highly-doped n-Si(100) with Pb contacts at T=100K, 200K, and 300K. J is fairly constant over this broad temperature range.



S4: J(V) measurements of a C16 ML on highly-doped n-Si(100) with Ti contacts. The currents vary by several orders of magnitude from contact pad to contact pad on the same sample. Such a variation has never been observed for Pb or Hg.



S5: J(V) measurement of a methyl-styrene ML on n-Si(111) with Hg and Ti contacts. The measurements were performed on the same sample after the Ti deposition.