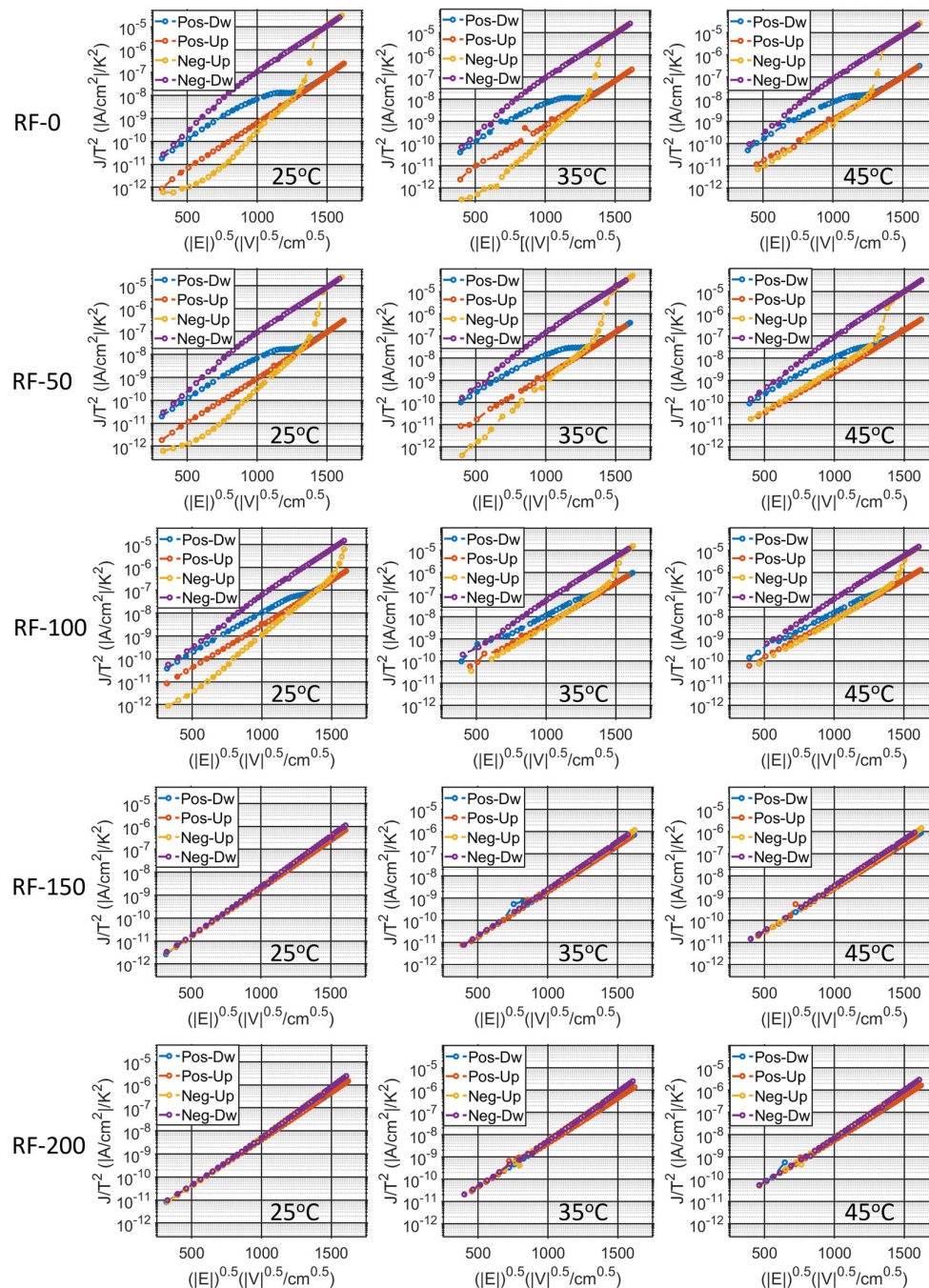
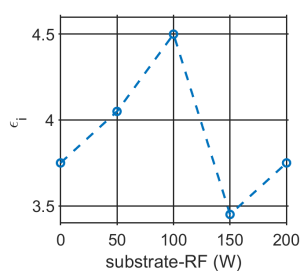




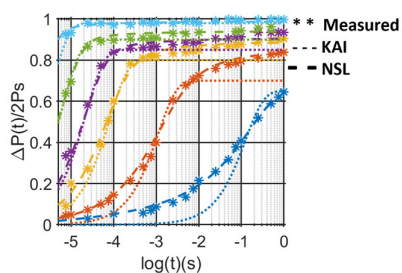
## Supplemental Material



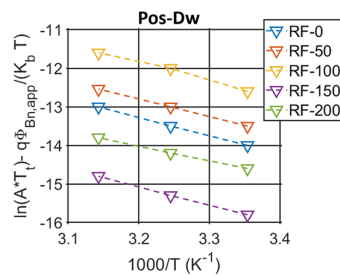
**Figure S1.** Summary of Schottky-emission plots for all the samples at 3 different temperatures. From top to bottom: RF-0, RF-50, RF-100, RF-150, RF-200, From left to right: 25°C, 35°C, 45°C.



**Figure S2.** Summary of extracted optical permittivity per different substrate-RF. The permittivities are extracted from the slopes of the  $\ln(J/T^2)$  vs  $\sqrt{E}$  characteristics [16].



**Figure S3.** Comparison NSL vs KAI models, confirming a better matching with measured data when the activation time is expressed through a Lorentzian distribution (NSL) instead of a Delta-Dirac (KAI).



**Figure S4.** Intercepts variations per different temperatures corresponding to the down-polarity state.