

Supplementary Materials

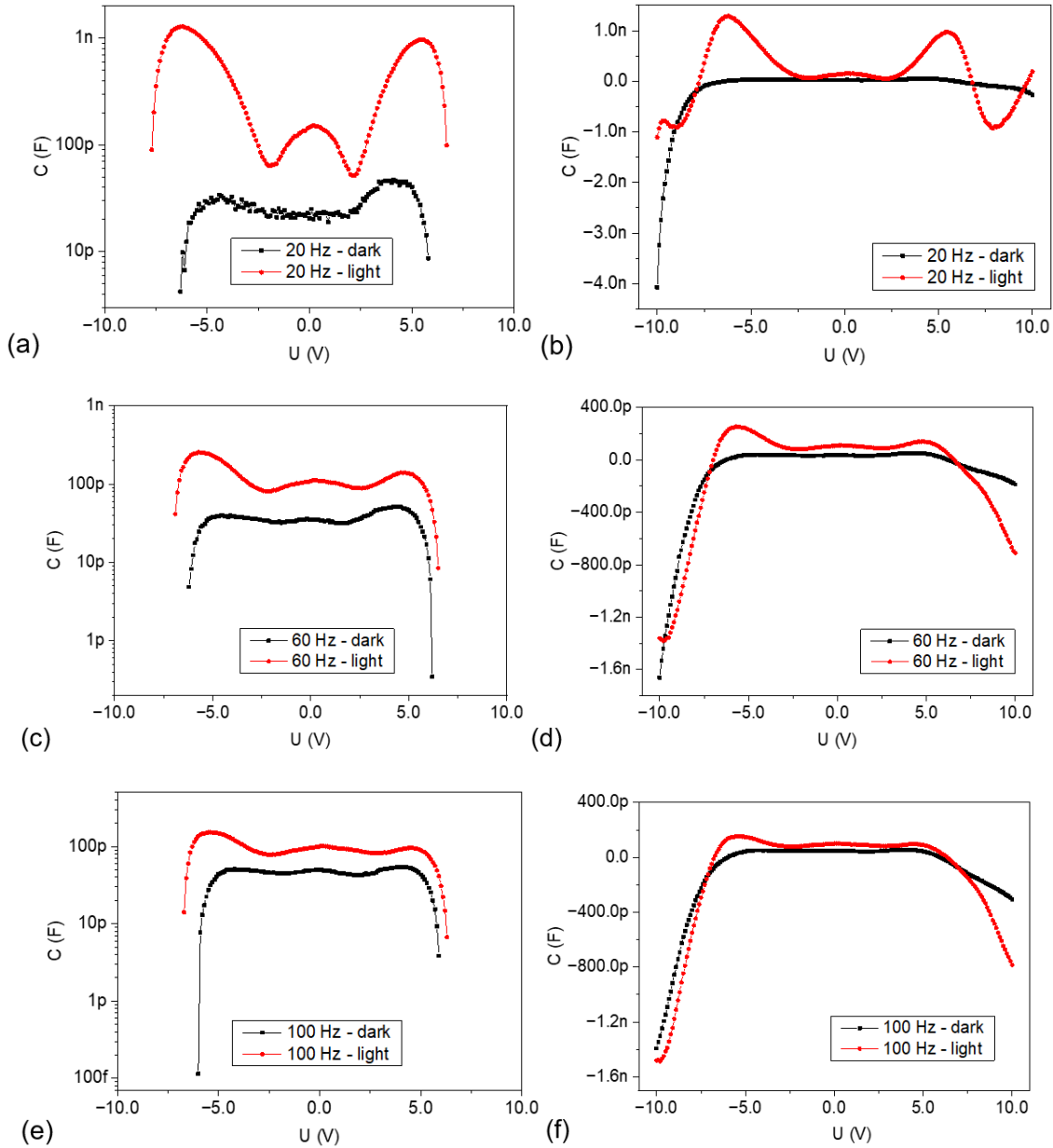
Evidence of Negative Capacitance and Capacitance Modulation by Light and Mechanical Stimuli in Pt/ZnO/Pt Schottky Junctions

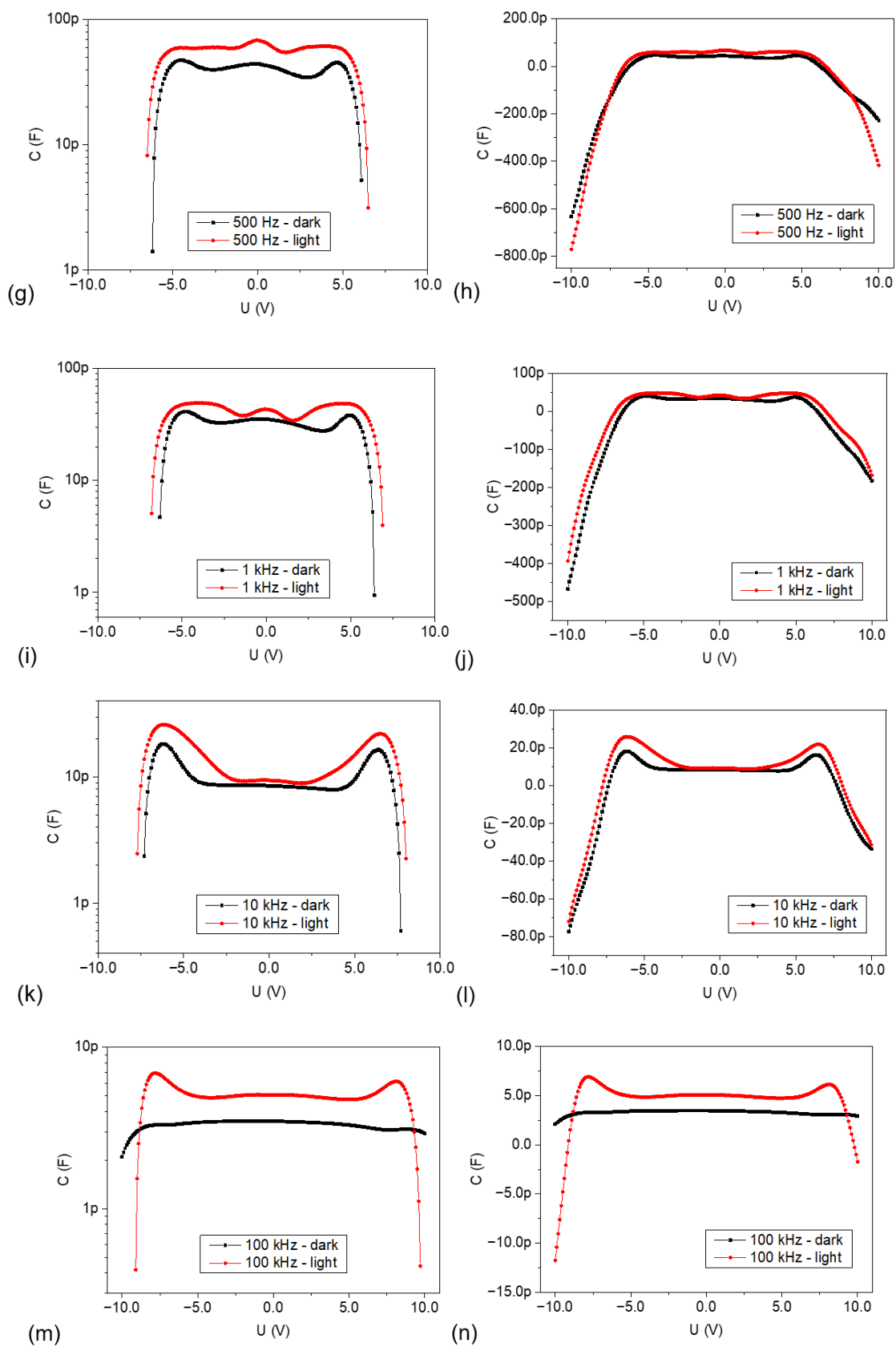
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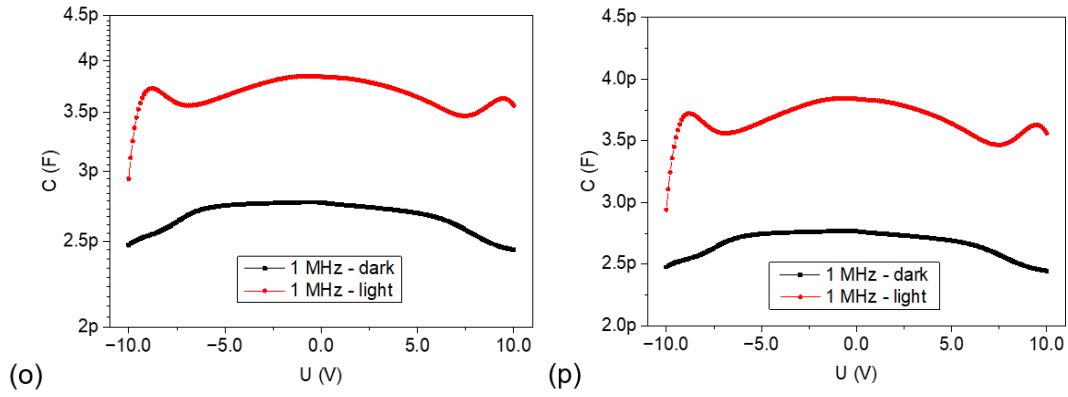
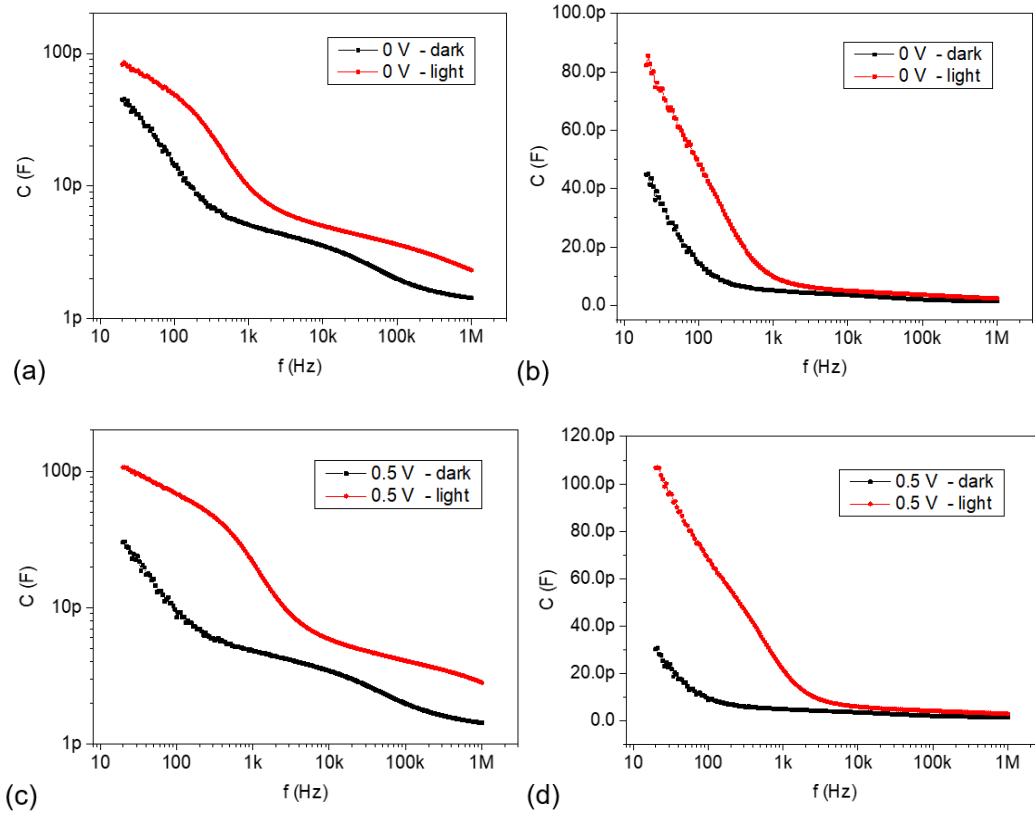
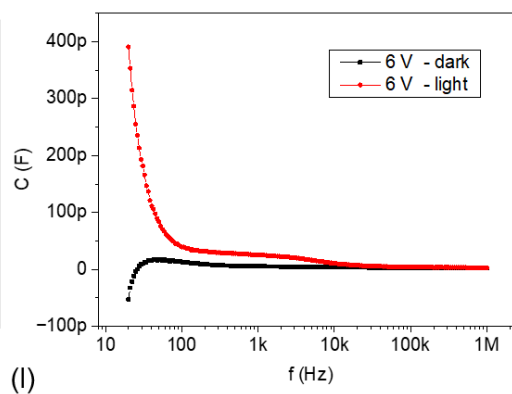
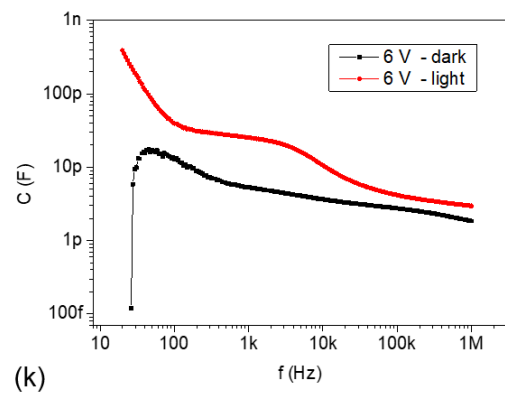
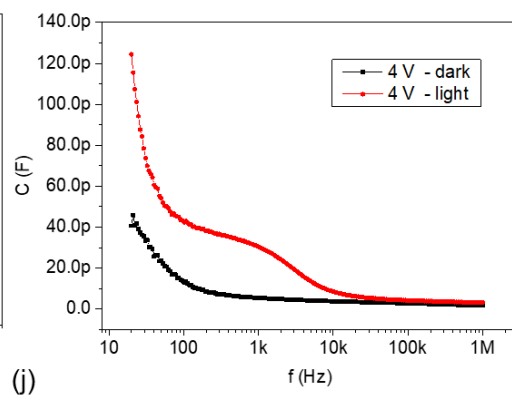
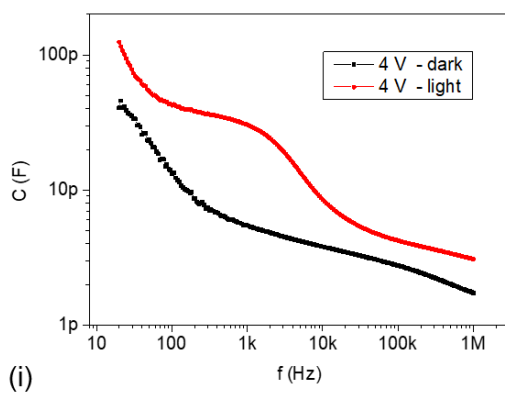
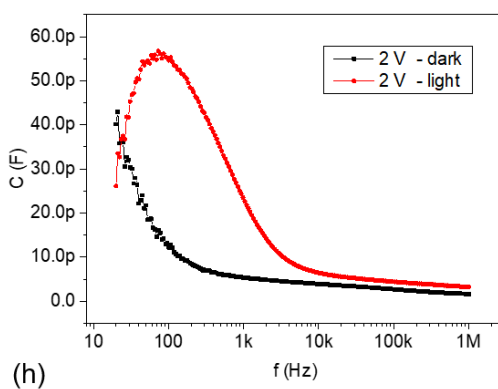
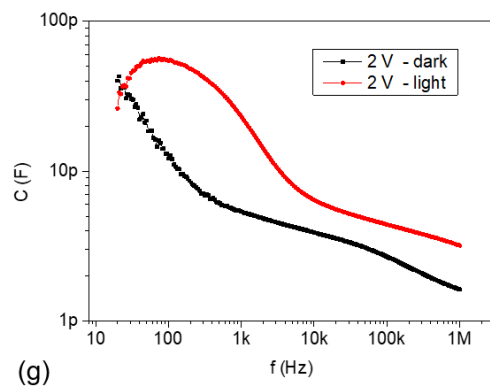
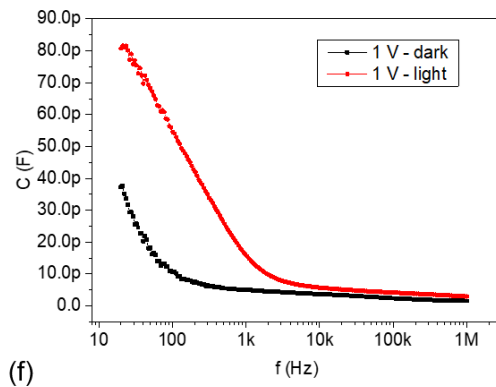
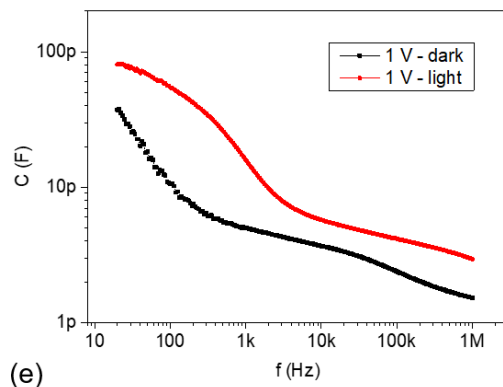


Figure S1. (C-V) characteristics under both dark and light conditions, for different fixed frequencies of the AC modulation superimposed to the DC bias and ranging between 20 Hz and 1 MHz. The voltage was swept between -10 V and 10 V, with a step voltage of 100 mV; (a) 20 Hz, log scale; (b) 20 Hz, linear scale; (c) 60 Hz, log scale; (d) 60 Hz, linear scale; (e) 100 Hz, log scale; (f) 100 Hz, linear scale; (g) 500 Hz, log scale; (h) 500 Hz, linear scale; (i) 1 kHz, log scale; (j) 1 kHz, linear scale; (k) 10 kHz, log scale; (l) 10 kHz, linear scale; (m) 100 kHz, log scale; (n) 100 kHz, linear scale; (o) 1 MHz, log scale; (p) 1 MHz, linear scale.





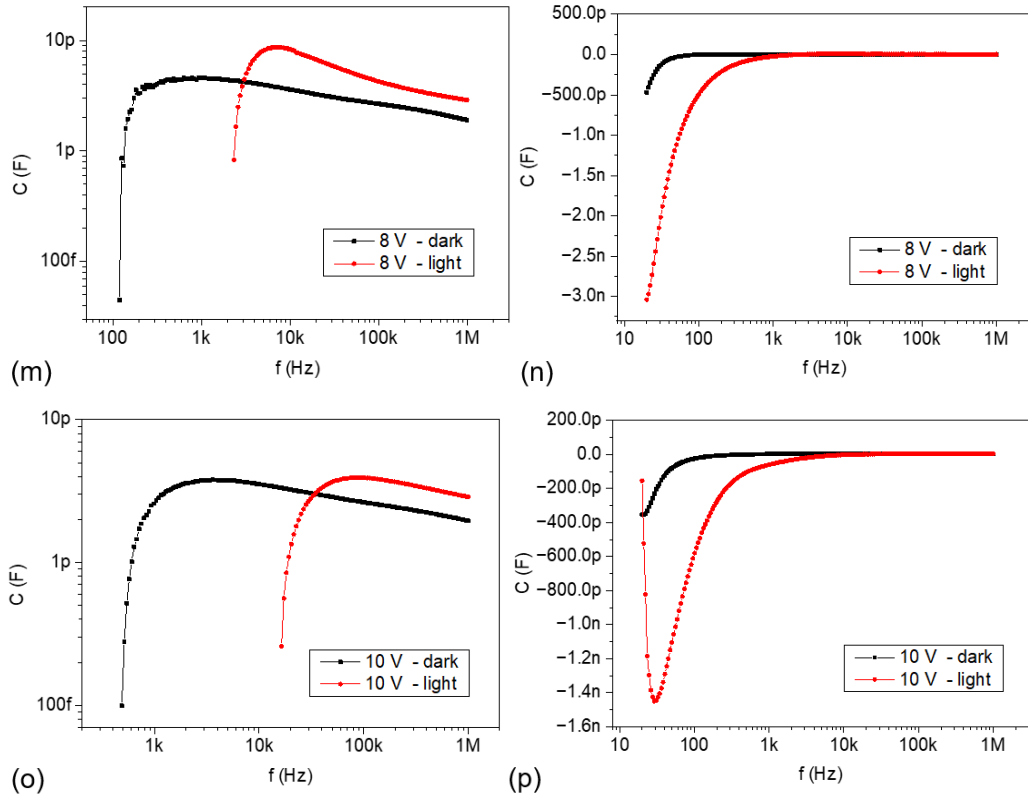
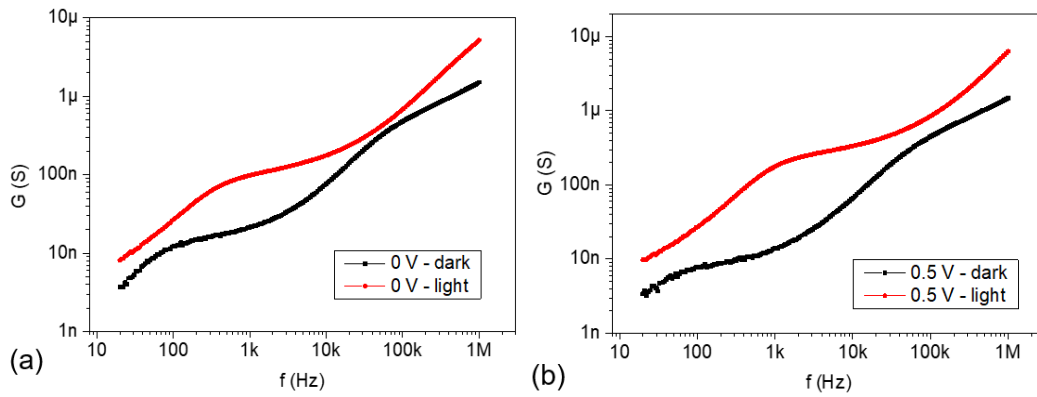


Figure S2. (C-f) characteristics under both dark and light conditions for different fixed bias voltages ranging between 0 V and 10 V. The frequency was varied with a logarithmic sweep between 20 Hz and 1 MHz; (a) 0 V, log scale; (b) 0 V, linear scale; (c) 500 mV, log scale; (d) 500 mV, linear scale; (e) 1 V, log scale; (f) 1 V, linear scale; (g) 2 V, log scale; (h) 2 V, linear scale; (i) 4 V, log scale; (j) 4 V, linear scale; (k) 6 V, log scale; (l) 6 V, linear scale; (m) 8 V, log scale; (n) 8 V, linear scale; (o) 10 V, log scale; (p) 10 V, linear scale.



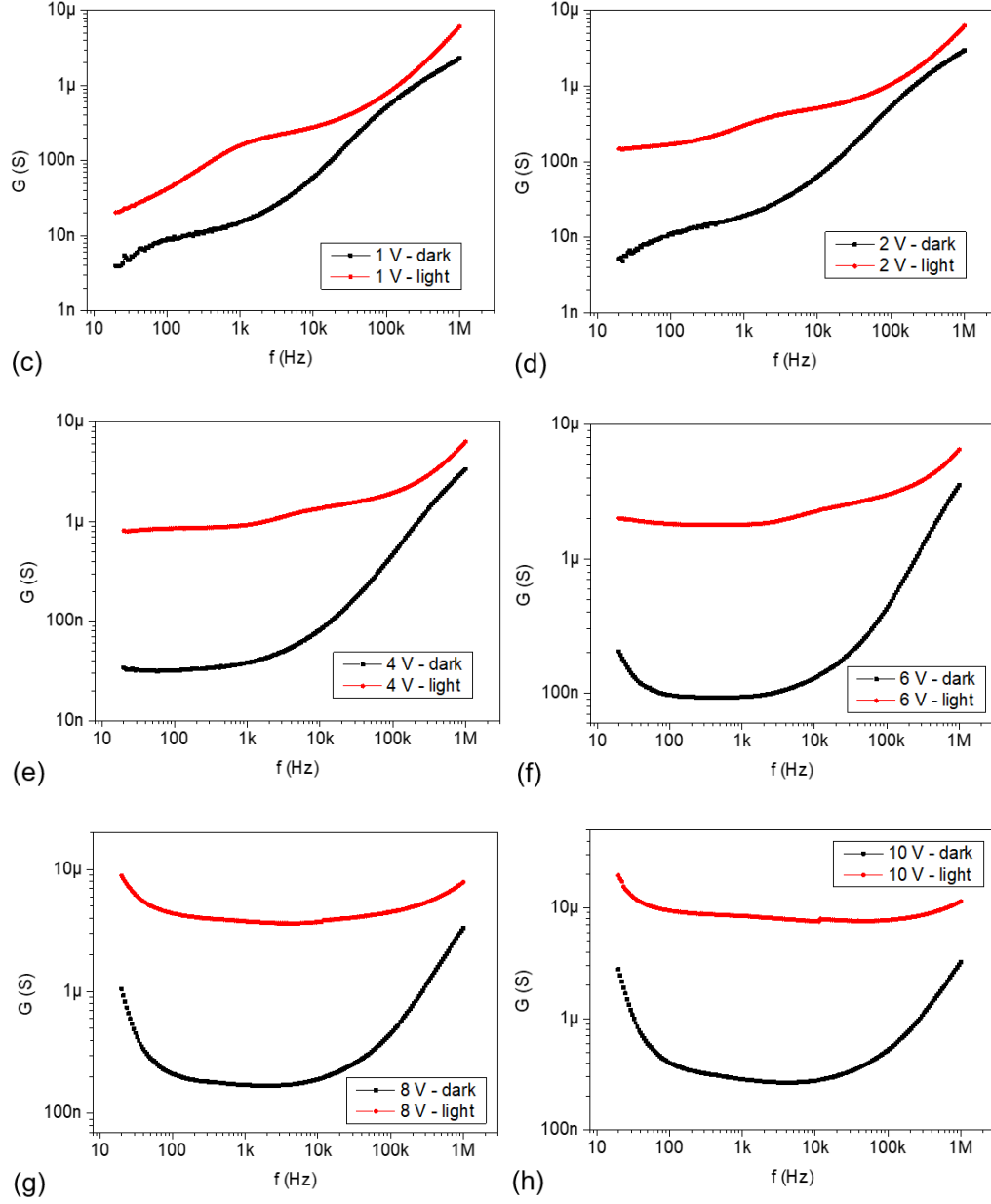


Figure S3. (G-f) characteristics under both dark and light conditions for different fixed bias voltages ranging between 0 V and 10 V. The frequency was varied with a logarithmic sweep between 20 Hz and 1 MHz; (a) 0 V, log scale; (b) 500 mV, log scale; (c) 1 V, log scale; (d) 2 V, log scale; (e) 4 V, log scale; (f) 6 V, log scale; (g) 8 V, log scale; (h) 10 V, log scale.

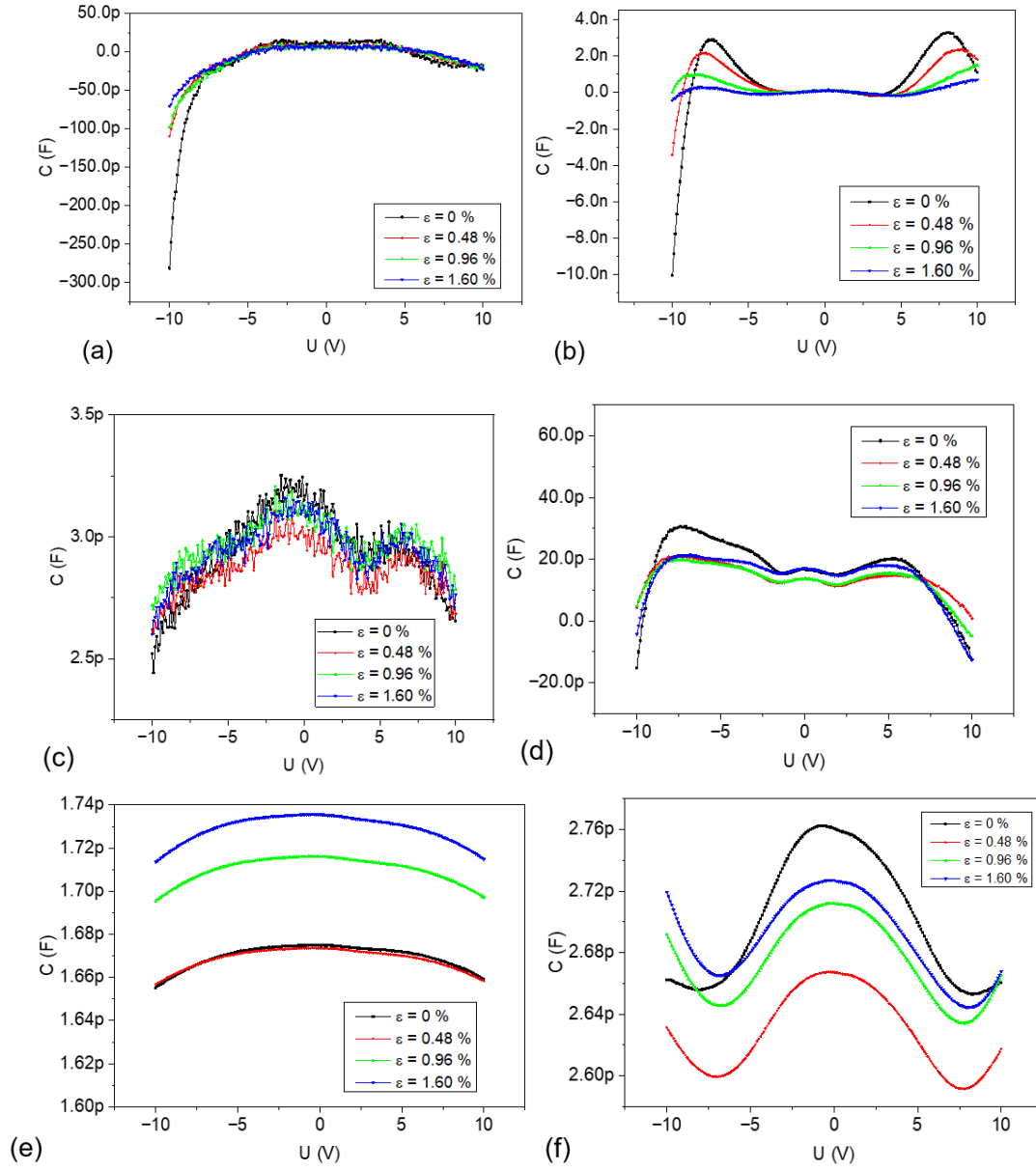


Figure S4. (C-V) characteristics under dark and light conditions for different fixed frequencies, with controlled compressive strain steps imposed on the junctions. The voltage was swept between -10 V and 10 V, with a step voltage of 100 mV; (a) dark conditions, 20 Hz; (b) light conditions, 20 Hz; (c) dark conditions, 1 kHz; (d) light conditions, 1 kHz; (e) dark conditions, 1 MHz; (f) light conditions, 1 MHz.