

Supporting Information

Title: The human brain-inspired light-stimulated gelatin-biopolymer gated synaptic transistor for realizing cognitive activities.

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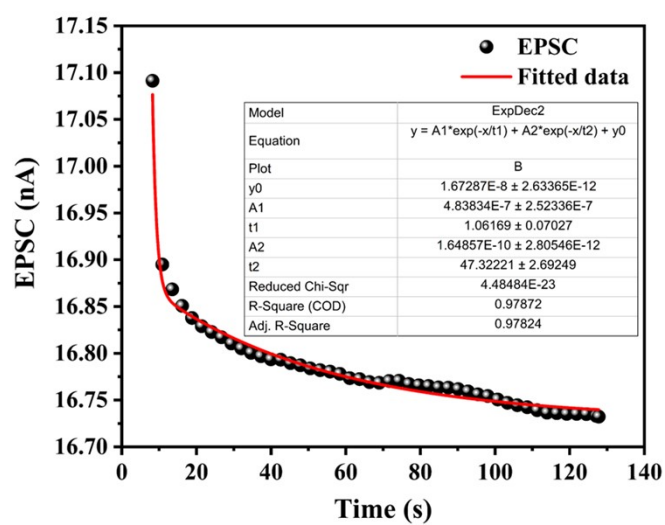


Figure S1: Bi-exponential fitting of the PPF graph

Table S2: The relaxation time from the bi-exponential fitting

Fast phase of relaxation	Slow phase of relaxation
1.06 s	47.32 s

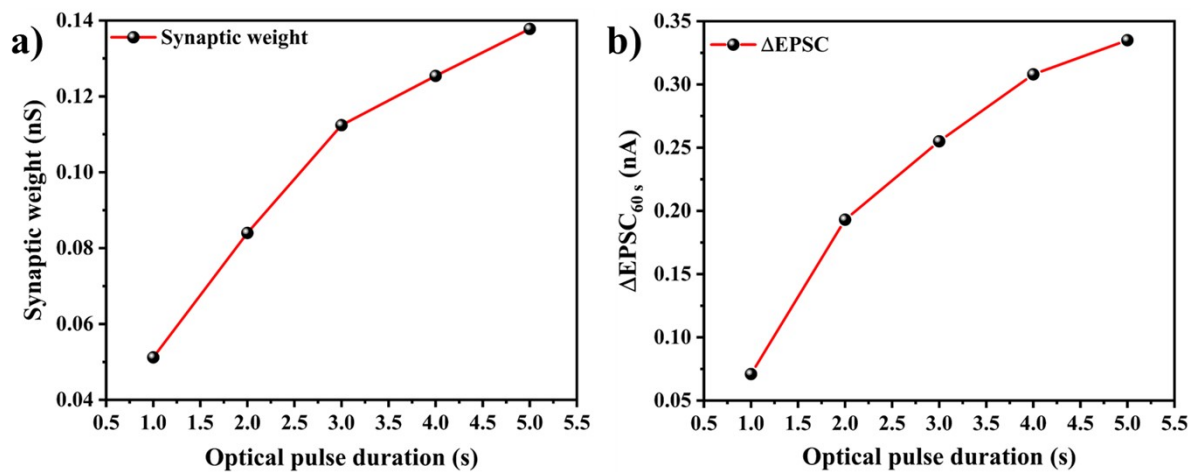


Figure 2S: a) Synaptic weight change of the OFET with respect to the optical pulse duration, b) Photo memory retention change of the EPSC after 60 s with respect to the optical pulse duration.

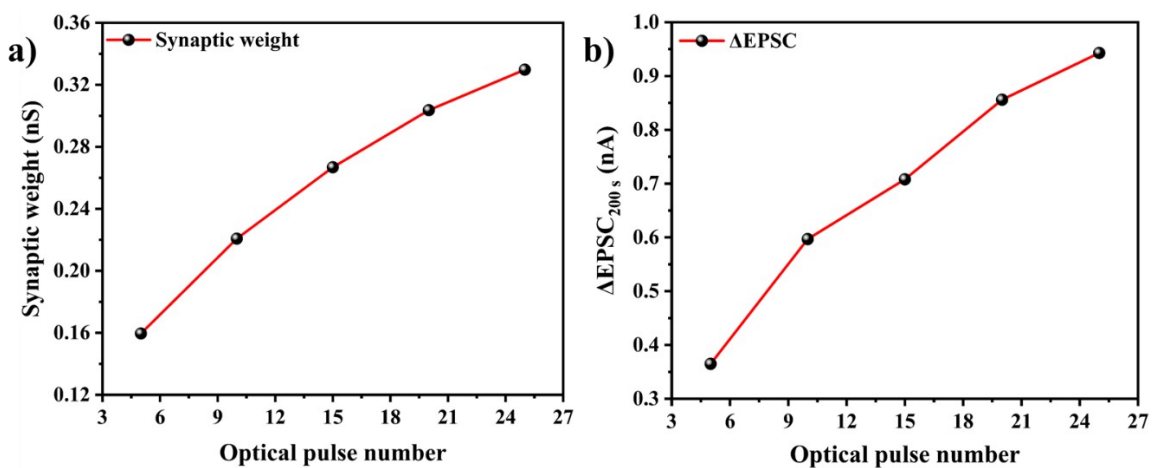


Figure 3S: a) Synaptic weight change of the OFET with respect to the optical pulse number b) Photo memory retention change of the EPSC after 200 s with respect to the optical pulse number

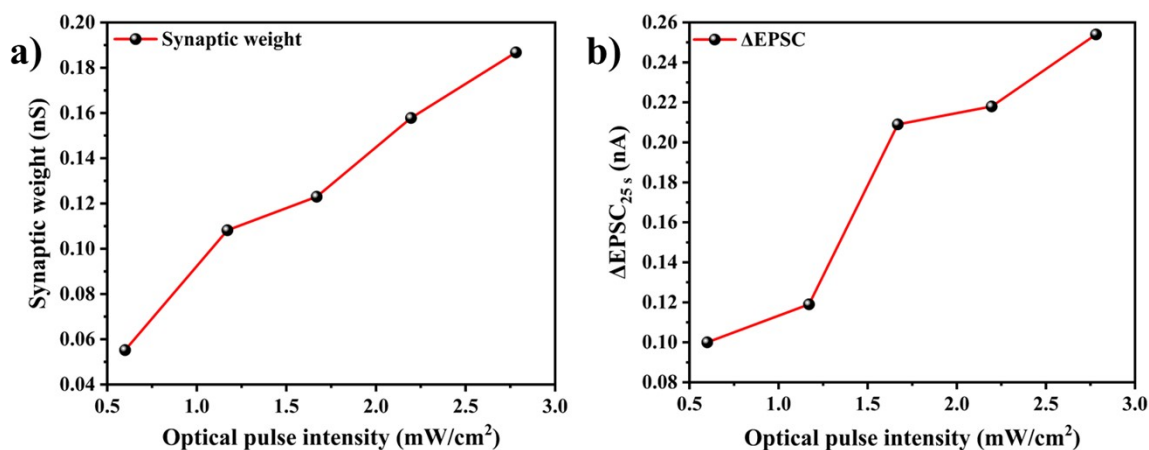


Figure 4S: a) Synaptic weight change of the OFET with respect to the optical pulse intensity

b) Photo memory retention change of the EPSC after 25 s with respect to the optical pulse intensity

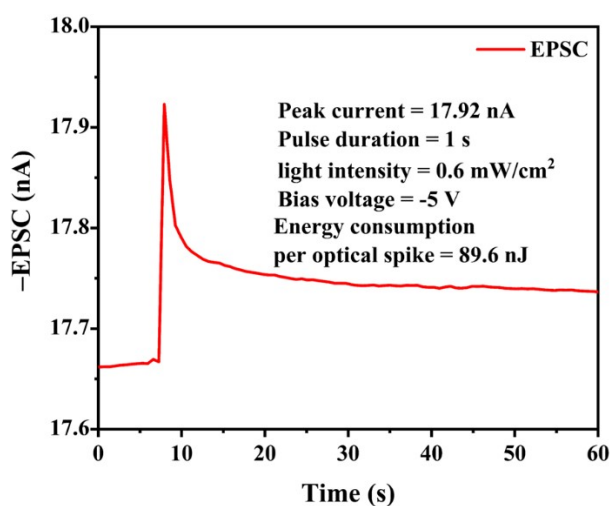


Figure S5: Energy consumption of the gelatin-gated PBTTT-C-14-based OFETs per optical pulse (1 s)