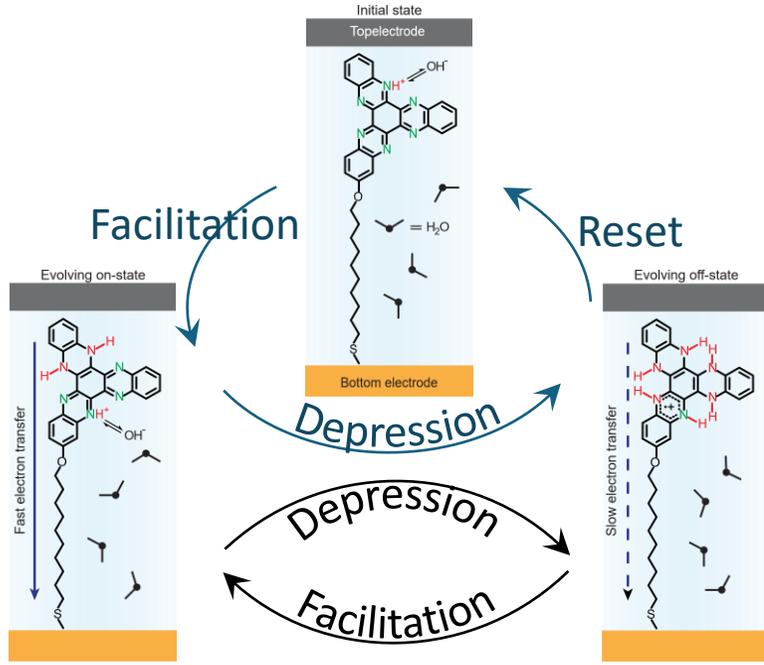


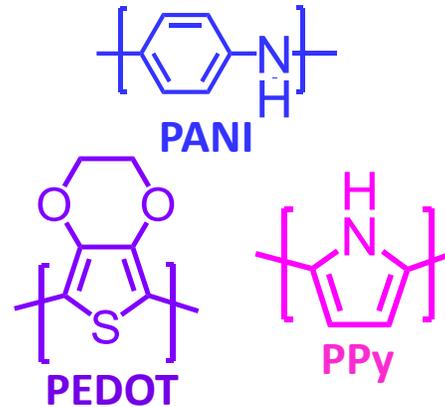
Research Project 1: Conductive polymers for energy efficient neuromorphic computing



Redox molecules replace synapses

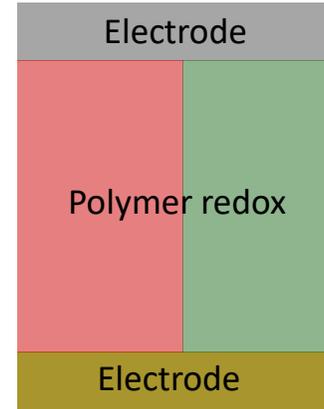


Redox
conductive polymers

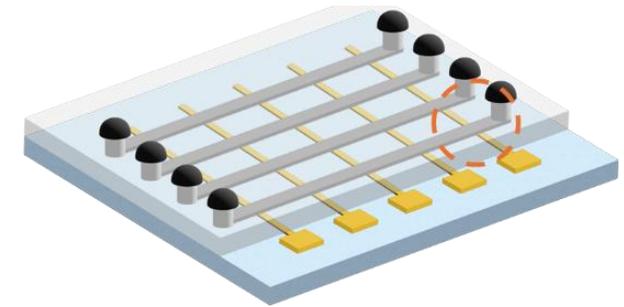


ACS Nano 2022, 16, 21120-21128

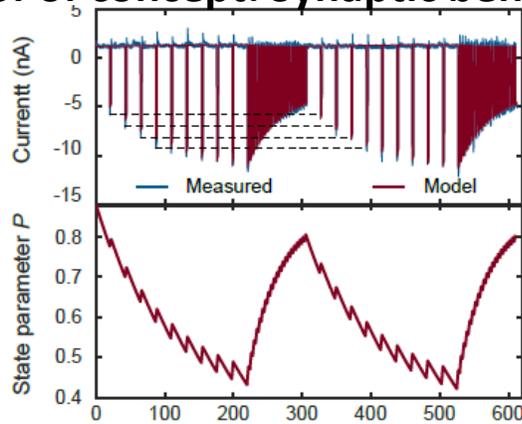
Replace synapses



Cross-bar array device



Proof of concept: Synaptic behaviour



Nat. Mater. 2022, 21, 1403-1411

Research questions:

1. Deposition of polymers in **cross-bar array** device, can we **scale** fabrication?
2. How do **electrical properties** vary with device area? Can we improve **switching speeds**?
3. Screening of **different conductive polymers** to optimize chemical structures. What is the role of **dopants**? Can we use **mixed** polymers?