

General Graphene C3 Electrode

Independent evaluation conducted by Dr. Aida Ebrahimi and her group at Penn State University

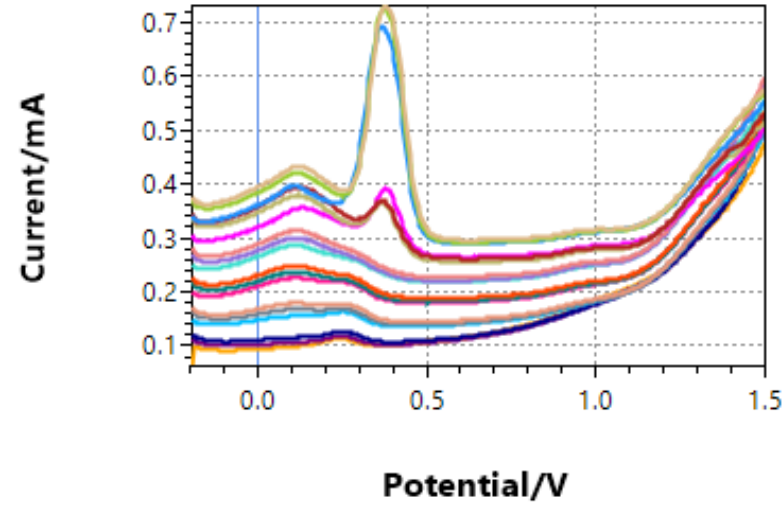
General Graphene Sensors



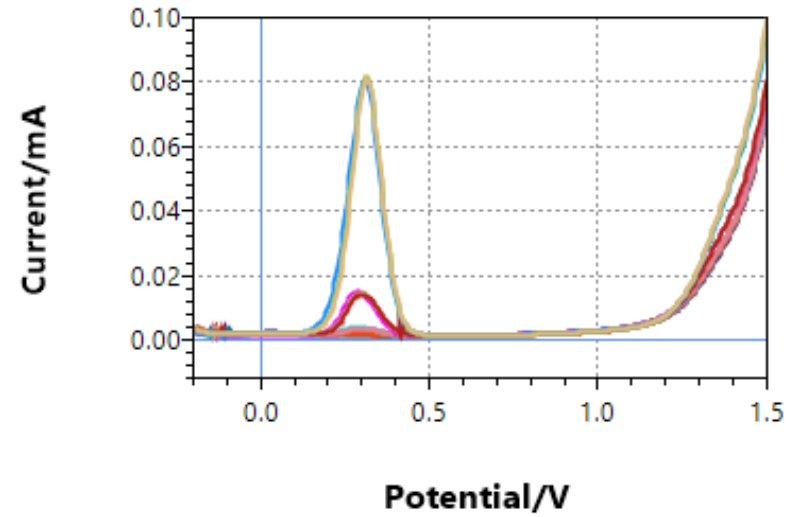
First, we compared the General Graphene C3 device with two other commercial carbon-based electrodes for dopamine detection.

General Graphene Sensors

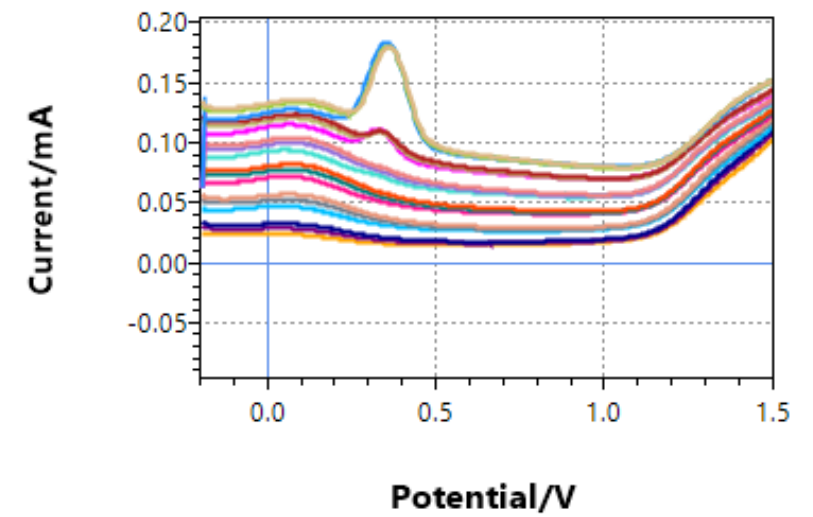
Commercial electrode A



General Graphene C3



Commercial electrode B

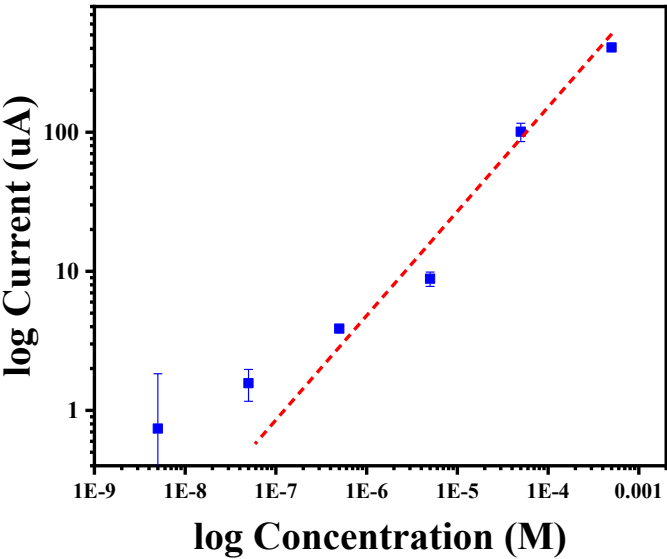


Interestingly, General Graphene C3 showed no noticeable signal drift (i.e. upward baseline shift even at potentials that are not the reaction peak) during measurements, even after replacing the solution over the electrodes → this means low noise and equivalently good limit of detection and sensitivity (at least for what was tested)

Tests in PBS.

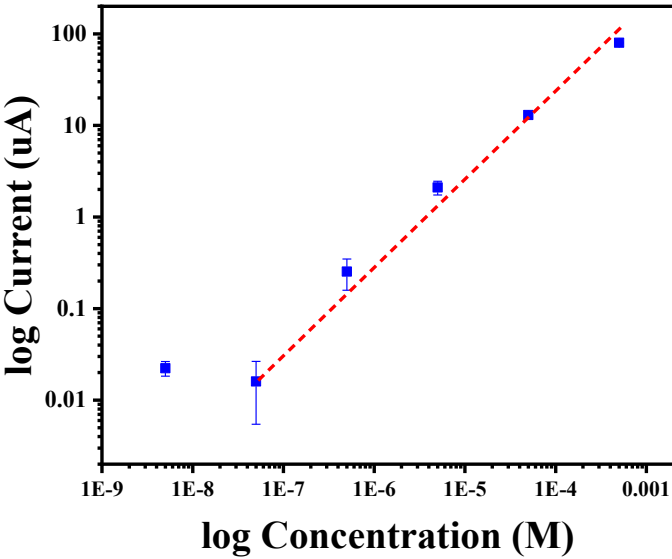
General Graphene Sensors

Electrode A



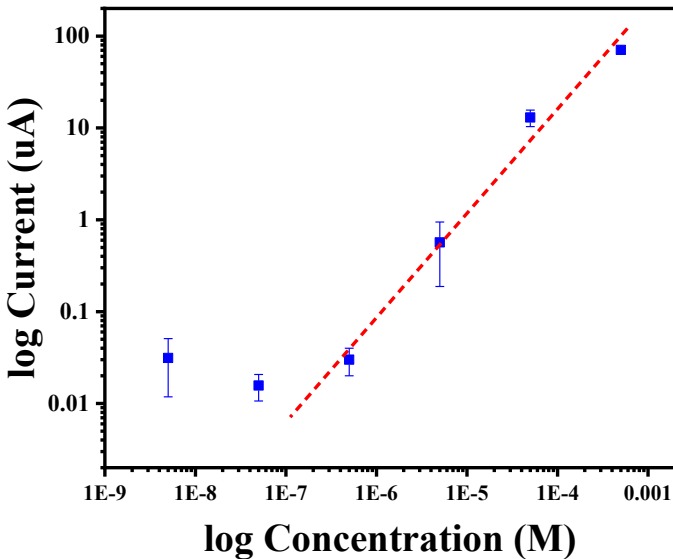
LOD = 906 nM

General Graphene C3



LOD = 120 nM

Electrode B

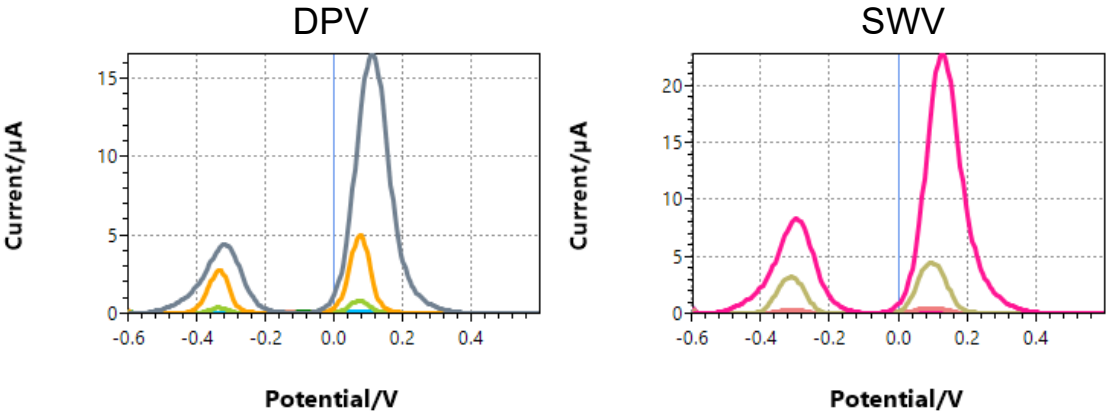


LOD = 1.16 uM

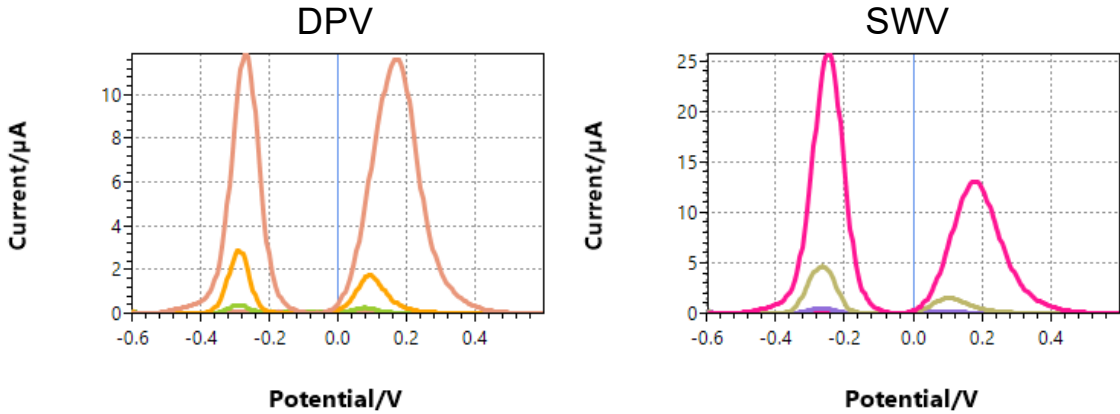
Under the tested conditions, General Graphene C3 achieved the lowest LOD for dopamine detection compared to the other carbon-based electrodes, indicating better analytical performance in this comparison.

General Graphene Sensors

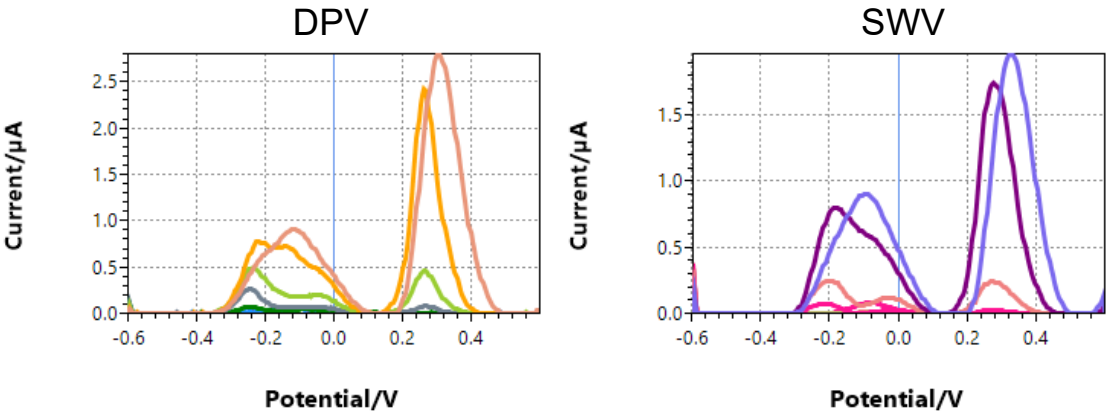
Dopamine



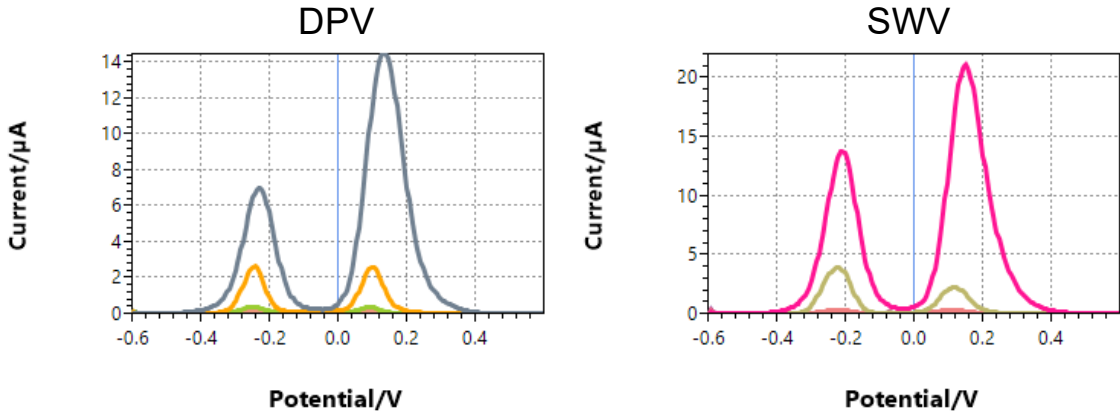
Epinephrine



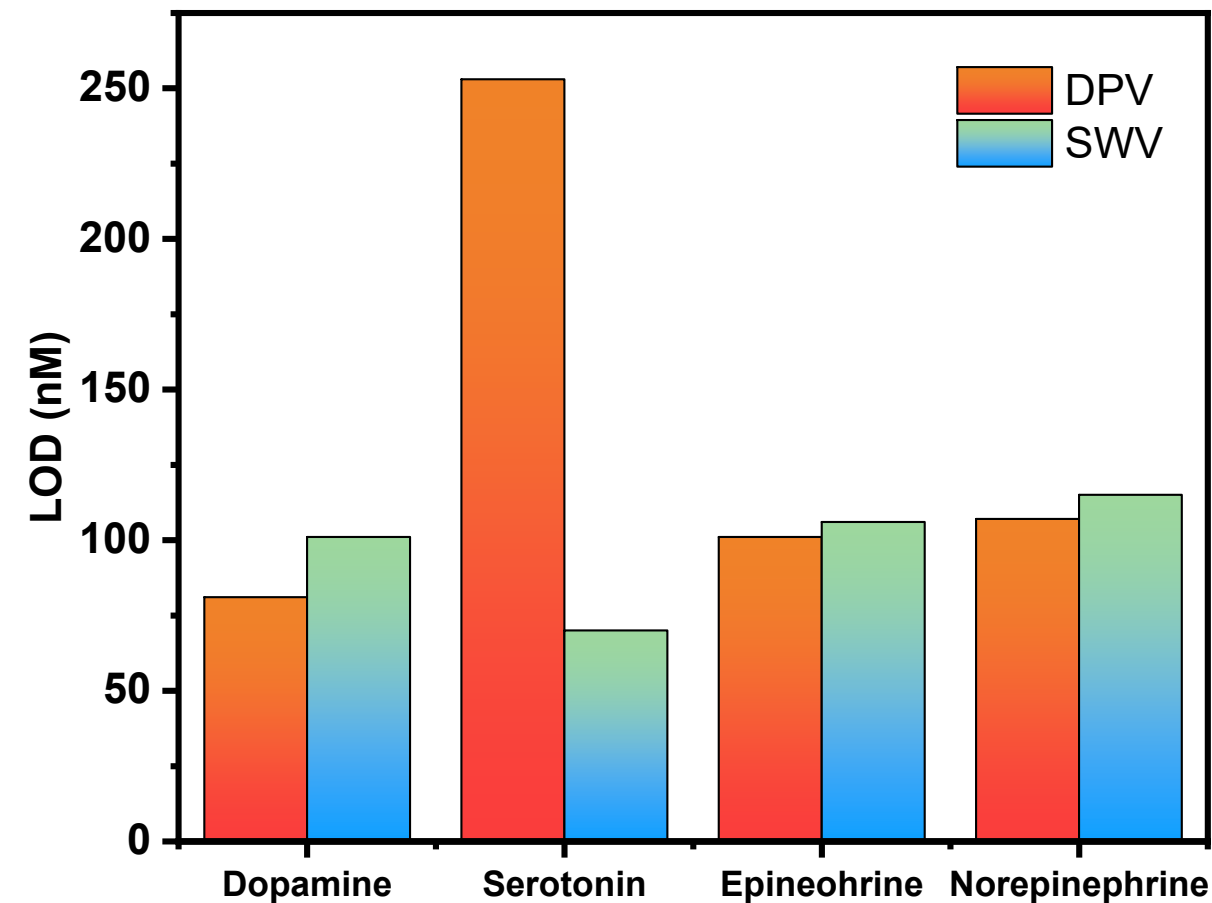
Serotonin



Norepinephrine



General Graphene Sensors



General Graphene C3 also showed a very good limit of detection for all four neurotransmitters, especially with square wave voltammetry reading.