

Reviewer 2:

In this manuscript, the authors developed an OECT based dopamine sensor, by functionalizing a gold (gate electrode) with aptamers that bind specifically to dopamine. The aptamers were additionally functionalized with a redox (methylene blue). In this way the gate electrode can be utilized as a working electrode in traditional electrochemical cells. However, when the gold electrode is used as a gate in an OECT the detection limit orders of magnitude lower reaching the highest limit of detection similar to the ones reported with EGOFETs. The authors demonstrate also good selectivity. The claims are supported by experimental data. Some minor claims need to be addressed and some minor typos should be corrected prior to publication.

Specific Comments:

1. iOECT is mentioned before being defined. It should be defined in line 64 and not later in experimental section.

Response: We agree with the reviewer. The corresponding modification has been made in the revised manuscript in red.

“In the present work, we embedded interdigitated OECTs (iOECTs) in a flexible polyimide substrate” (Page 2, line 62)

2. Lines:59-61 Authors claim that previous methods include complicated processes including catalytic materials, however I believe part of their detection method includes similar complicated processes such as functionalization of methylene blue to aptamers. I believe this claim is rather misleading and undermines work from other groups and should be modified.

Response: We agree with the reviewer. The corresponding modification has been made in the revised manuscript in red.

“However, dopamine detection methods that are capable of simultaneously demonstrating high sensitivity, selectivity, and a wide detection range is still lacking for clinical application.” (Page 2, line 60-61)

3. Minor typos with superscripts exist in the manuscript

Response: We are sorry for the mistakes. The corresponding modifications have been made in the revised manuscript in red.