Review of: "Critical Review on Carbon Nanomaterial Based Electrochemical Sensing of Dopamine the Vital Neurotransmitter"

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Potential competing interests: No potential competing interests to declare.

The review is good and comprehensive, although it stops at 2020.

I think that a rearrangement of the text could lead to a clearer paper. In particular:

Introduction Section: I recommend moving the chemical information about dopamine, currently at the end of the paragraph, to the beginning—specifically, at the end of the first sentence.

Paragraph 3: Begin with the experimental data. The initial portion could be rearranged and included in the introduction for better flow.

Paragraph 4: Regarding carbonaceous materials, nanodiamond and diamond are missing from this review. Electrodes based on CVD-grown Ti-doped diamond for dopamine detection, as well as other diamond configurations, have already been fabricated. To ensure completeness, a section discussing diamond-based electrodes for dopamine detection should be added.

I would suggest significantly shortening the descriptions of CNT types and structural configurations. Keep the references, but streamline the paragraph, focusing on how CNTs are applied specifically to the topic of the review.

Paragraph 4.1: The timeline should run from 2017 to 2020, not the reverse. Additionally, why does the review stop at 2020? Publishing an up-to-date review would be more valuable, so I suggest including recent work and possibly trimming some studies before 2019 if they are not highly relevant.

I find the tables very useful because the large amount of text discussing various studies makes it difficult to follow and grasp the key points. Summarizing the relevant work in the table is a good idea. In the reference column, I suggest including the first author's name, the year, and the reference number, giving readers a quick overview of how sensor development has evolved over time.

In the table, add a few more details on the fabrication method.

In the text, I recommend reducing less relevant details, such as how the authors characterized the electrodes (e.g., XRD, SEM). Instead, focus solely on the technique used to detect dopamine (DA), as too much peripheral information could

confuse the reader. Concentrate on the "who," "when," "how," and whether there were interference studies. I suggest merging Paragraph 4.2 with the previous one and structuring the review into distinct paragraphs: one for CNTs, one for graphene-based materials, and one for diamond-based electrodes.

Additionally, a table summarizing the work on diamond-based electrodes should be included. Although there are fewer studies compared to CNT and graphene oxide, it is still valuable to evaluate this approach, especially as the review concerns carbonaceous materials; it would be improper not to include them.