Reviewer 2:

Reviewer comment:

What is the standard for microfiber lifetime? How to evaluate and compare the liftime of microfiber? Please describe more in the manuscript.

Authors' response:

A microfiber which doesn't expose to analyte can be stable and work for a very long time. In the manuscript, we investigated the lifetime of microfibers while exposed to an analyte. In the introduction on page 7 line 197 we wrote: 'First, researchers need to be very careful when working with such a fragile device. Second, when working with metal nanoparticles and highly toxic substances, the microfiber can also be easily destroyed during the research process.' In addition, in the current manuscript, we clarified this and wrote at the start of the results section: 'To increase the lifetime of the microfiber while in contact with metals and caustic materials,' In the current version of the manuscript, we expanded the section related to the microfiber and on page 7 line 216 we wrote: 'We applied 6 micro liters of different concentrations of gold nanoparticles on the microfiber region of the tapered fiber. We calculated the lifetime by measuring the transmission of the tapered fiber until the microfiber completely ruptured which caused the transmission to become zero. With a series of samples of graphene composites and gold nanoparticles, we performed the same procedure and measured the operating time of the microfiber until destruction.'

Reviewer comment:

It is very nice to use Raman to confirm the existence of graphene in figure 4. However, due to interference with other carbon materials, that is not enough as evidence. In order to confirm that the main component of the sample is graphene, the author should further test XRD and so on.

Authors' response:

In previous work, we check the sample after sonication and observed graphene layer. In the current version of the manuscript on page 3 line 114, we clarified this and wrote: 'These results are compatible with our previous work that showed that the shungite sample after dispergation contains graphene films and graphite-shaped parts [46]. These data will be confirmed later with Raman spectra and XPS data.'

Reviewer comment:

Line 109, line 136, line 142 and line 154. The author mentioned several times "the replacement of OH groups in graphene layers by gold". In this way, gold and graphene will form new chemical bonds. XPS will show the corresponding new peak. Please use figures instead of tables, and mark the position of the peak in XPS figures.

Authors' response:

We thank the Reviewer for the vigilance. In this paper, we used tables instead of figures because the tables have values in percentages which makes it easy to compare each stage.

Reviewer comment:

Is the thermal action of the laser only the evaporation of water? If there are other functions, please add them to the manuscript

Authors' response:

The thermal action of the laser causes only the evaporation of water which makes the graphene deposition on the fiber faster.

Reviewer comment:

Please unify and correct the form of references.

Authors' response:

We used the template for Nanomaterials and used the default setting of reverences format without changing it.