We must thank you for the valuable comments and suggestions, which helped improve our manuscript greatly. Please do forward our heartfelt thanks to the reviewers. Based on the comments we received, careful modifications have been made to the manuscript. All changes were marked in text. We hope that the revised manuscript answered the questions. Below you will find our point-by-point responses to the comments/questions:

To Reviewer 1:
While the aim of this study has its merit, it has several fundamental shortcomings that prohibit to draw any sound conclusions from it. The project is based on a single wood disk - for a reliable analysis, a larger populations must be employed.

Thanks. We are sorry for making a mistake of using a single wood disc. The sample was prepared from powder of 6 discs. We added the description in line 54 that “A disc with a diameter of about 20 cm in 5 cm thickness was taken from the 100 cm long teak log. 6 logs were chosen in total, and the discs were selected from different position of the logs, namely, the top, middle, and bottom. They were exposed naturally for air-dried.” Please check.

Several extractions with different solvent are performed, which is definitely necessary in extractive analysis, but then only a single one is analysed. In extractive analysis, a single extract will never give the full picture, and a lot of information is lost by not analysing the other extracts. The stated reason to ignore the other extracts is "the component was difficult to separate”.

Thanks. We have extracted the wood with hot water, cold water, 1% NaOH, alcohol-benzene, and acetone. As we mentioned in line 119, the content of extractives in hot water, cold water, and 1% NaOH were almost the same between sapwood and heartwood. Difference was found in the alcohol-benzene and acetone groups. We are sorry for the wrong reason of only analyzing acetone extractives. We have corrected it in line 125. “Deng [29] obtained that the acetone can serve as an alternative for alcohol-benzene.” Please check.

Ref:

GC conditions are inadequate for extractives analysis: an inlet temperature of 250°C and a maximum oven temperature of 280°C will not elute a large portion of the analytes. Extractive analysis is usually performed at high-temperature systems allowing temperatures up to 400°C. No derivatization of the sample is mentioned, which again means that only very apolar compounds will be detected. No mention is made how compounds were identified. A simple database search is insufficient, at least retention indices must be taken into account as well.

Thanks. The GC condition was set according to other researchers such as Yin et al. [11], where less thermal decomposition occurred. As for your suggestion, we added the retention indices in Table 4. Please check.
Ref:

As a side note, in a project that aims at determining chromophoric compounds, GC-MS might not be the best choice. A liquid chromatography system (LC, SFC or HPTLC) with UV/Vis and MS would identify the chromophoric compounds and their structure without discriminating by boiling point and polarity.

Thanks for your sincere suggestion. Due to the limitation of correction time of 10 days, we will take the HPLC with UV/MS for the chromatic compounds in further study.

A large portion of the detected compounds appear to be misattributed (estriol, a mammalian pregnancy hormone) or artifacts from sample preparation and the employed chemicals (the classics: BHT, phthalates, probably all of the alkanes). Unfortunately, the major peak of 4-tert-buty1-2-phenyl-phenol is among them. Reporting the results of extractives must really take into account that several compounds are involuntarily added by solvents and reagents, and these artifacts must be detected and labelled. A blank run and thorough check of the detected compounds would help in doing so.

Thanks. These compounds might not belong to the wood extractives. We have mentioned that in line 357, “It should be noted that some compounds might not belong to wood extractives, such as estriol, a mammalian hormone, and antioxidant of butyl(2-chlorocyclohexyl) methyl phthalate. These compounds might be the dissolved impurity from the plastic lips.” Please check.

The anthraquinones might indeed contribute to the colour, but they are very prone to oxidation and isomerization due to changes in pH. To obtain a really reliable result of their condition in vivo, sample extraction would have to be very careful.

Thanks. The anthraquinones extracted from wood were stored in the acetone liquid, which was sealed up to avoid oxidation before analyzing carefully.

I could not understand how the authors obtained quantitative values from calibrating a single standard. Response factors vary a lot in GC-MS, and cannot reliably be predicted.

Thanks. We added details for the obtaining of quantitative values in line 73 that “3 g wood flour sample was extracted by alcohol-benzene, 1% NaOH, cold water, hot water, and the acetone, respectively…” and line 77 “After the extraction complete, the extractives were transferred to 50 ml volumetric flasks and bring to volume.” Therefore, the mass of the sample can be calculated. In line 147 “According to the external standard method, the area of the standard solution at different concentration was detected by GC-MS.” Thus, we used 2-methyl-Anthraquinone as standard solution at different concentration because of the typical substance of teak. The relation was good with R2 of 0.9987. Thus, the quantitative value could be reliable.

There are a few typos in chemical names, and it is not clear to me how the components listed in lines 161 and 162 are isomers (chloranol (hypochloric acid), hexadecanoic acid and deoxylactam? Which deoxylactam of the many?).
Thanks. We have confirmed all the chemical names in the ChemiSpider already, and so sorry to mislead you because of our wrong statement about the documents. All of the substances with a coordinate relation, which had existed in teaks from Java Island. Please check.

Sincerely yours,
Hongyun Qiu, Ru Liu, Ling Long
May 14, 2019