SUPPLEMENTARY INFORMATION

Development of solid acid catalyst from biomass obtained from cake of *Vitellaria paradoxa* and its application in biodiesel production via a two-step reaction system

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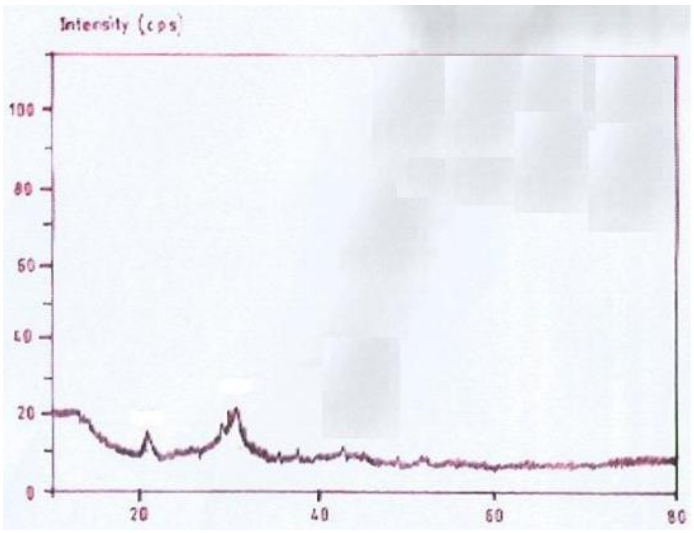

Figure S1. XRD spectra of sulphonated biochar.

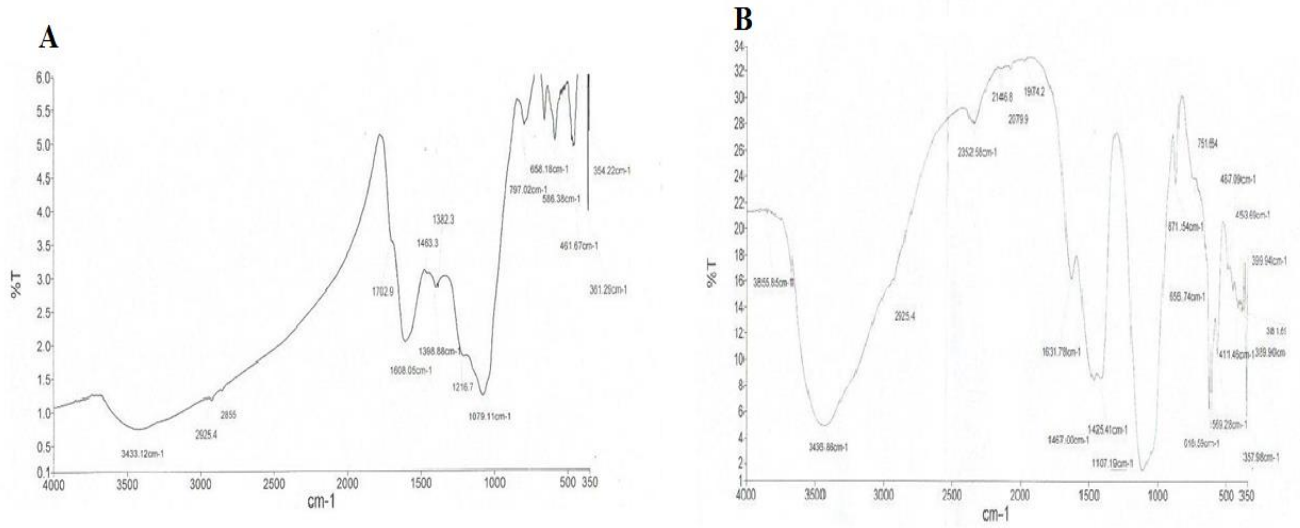

Figure S2. FT-IR spectra (A) biochar catalyst (B) non-sulphonated biochar.

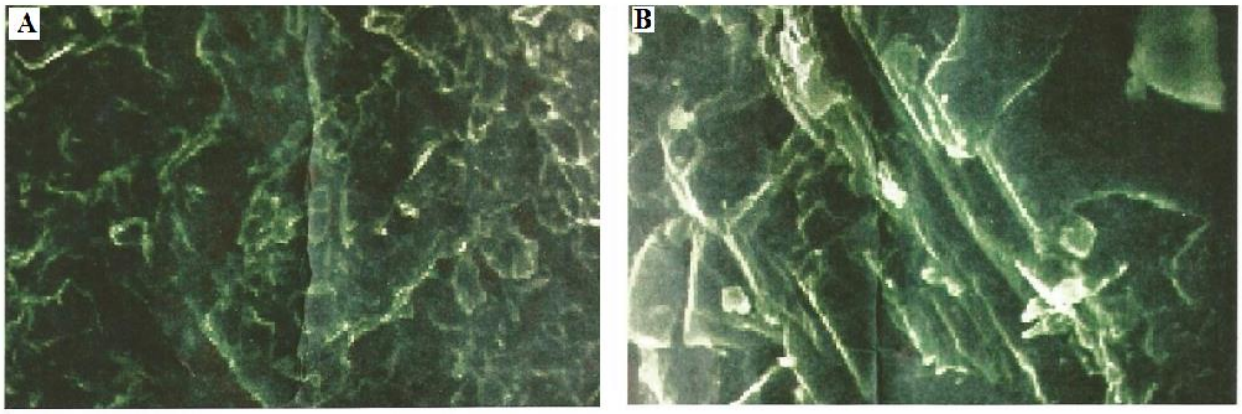

Figure S3. Scanning Electron Microscopy images of biochar-based catalyst (A) 5 µm and (B) 10 µm.

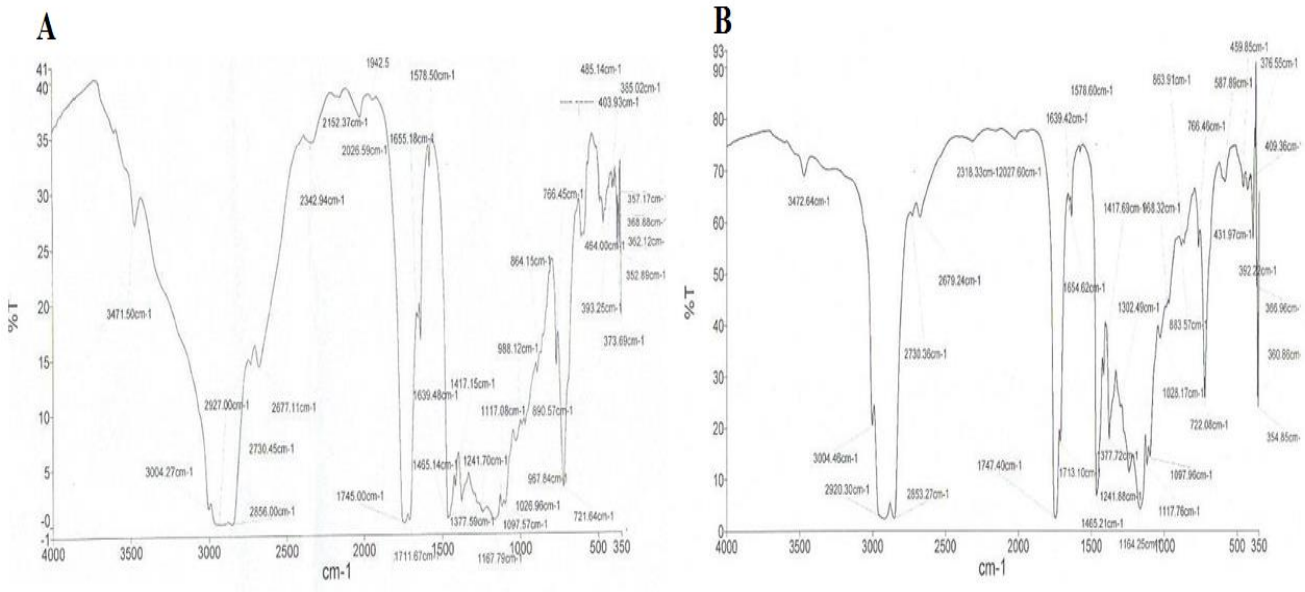

Figure S4: FT-IR spectra (A) *V. paradoxa* oil (B) Biodiesel.

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Dear Editor,

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I am submitting our research article for publication in your notable organisation.

All the contributing authors mutually consented the paper be submitted in International Journal of Energy and Environmental Engineering and we wish to categorically state that there is no conflict of interest whatsoever and the work was carried out by the authors listed in the article. The data reported in the manuscript is original and no alterations were made during the course of data computation.

The article has not been submitted to International Journal of Energy and Environmental Engineering previously and the research focussed on the utilization of *V. Paradoxa* feedstock as a raw material for the production of biodiesel and reusable solid acid catalyst. The material used for catalyst synthesis was derived from cake of *V. Paradoxa* seed after the oil extraction. This process can reduce the cost associated with energy involved in purification and separation processes.

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I look forward to a favourable response.
Kind regards,

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