Dear  Reviewers,

Re: Degradation of Polycyclic Aromatic Hydrocarbons in Contaminated Soil by Immobilized Laccase (No.: 5946-32233-1-SP)

By Xin Wang, Shiyu Sun, Zijun Ni, Zhaoxing Li and Jia Bao

Many thanks for your email of 19 December 2017, regarding the revision and advice of the above paper. Overall the comments have been fair, encouraging and constructive. We have learned much from it. After carefully studying the reviewer’ comments and advice, we have made corresponding changes to the paper. The relevant regulations had been made in the original manuscript according to the comments of reviewers, and the revised portions were marked in red and some grammar and spelling errors had also been corrected.

Thank you very much for the excellent and professional revision of our manuscript.

Sincerely yours,

Jia Bao

(1)*Determination of immobilized laccase activity.* Immobilized laccase (0.01g) was accurately weighed and added into beaker, then 2 mL 1 mmol/L O-toluidine aqueous solution and 2 mL acetic acid-sodium acetate (HAc-NaAc) buffer solution(pH =4.0) were added into it was mixed for 10 minutes at room temperature. Next, the supernatant was put into the UV-V spectrophotometer to start the reaction. In addition, it was able to determine the free laccase activity and increased the absorbance to 420 nm in three minutes. Measurement data was used to calculate the immobilized laccase activity.

1. Revision of the figures

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Fig. 1 The recovery of immobilized laccase and free laccase in different conditions

1. left: different pH,2)right: different temperature)





Fig. 2 The influence of pH to immobilized laccase degradation of Pyr and Bap

1. The different letters indicated significant differences in the degradation rate (P<0.05)

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Fig. 3 The influence of temperature to immobilized laccase degradation of Pyr and Bap

1)The different letters indicated significant differences in the degradation rate (P<0.05)