**Enantioselective Resolution of (±)-1-Phenylethyl** **Acetate by Extracellular Proteases from Deep-sea Bacterium *Bacillus* sp. DL-2**

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**Figure S1.** The growth curve of *Bacillus* sp. DL-2.

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**Figure S2.** The hydrolytic activities and the kinetic resolutions of (±)-1-phenylethyl acetate by the extracellular proteases of *Bacillus* sp. DL-2 at different culture times.

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**Figure S3.** Effect of pH on the activity of the extracellular proteases from *Bacillus* sp. DL-2.



**Figure S4.** Effect of pH on the stability of the extracellular proteases from *Bacillus* sp. DL-2.



**Figure S5.** Effect of temperature on the activity of the extracellular proteases from *Bacillus* sp. DL-2.



**Figure S6.** Effect of temperature on the stability of the extracellular proteases from *Bacillus* sp. DL-2.



**Figure S7.** Effect of pH on the kinetic resolution of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the generation of (*R*)-1-phenylethanol.



**Figure S8.** Effect of temperature on the kinetic resolution of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the generation of (*R*)-1-phenylethanol.

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**Figure S9.** Effect of enzyme concentration on the kinetic resolution of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the generation of (*R*)-1-phenylethanol.



**Figure S10.** Effect of substrate concentration on the kinetic resolution of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the generation of (*R*)-1-phenylethanol.



**Figure S11.** Effect of reaction time on the kinetic resolution of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the generation of (*R*)-1-phenylethanol.



**Figure S12.** Effect of pH on the kinetic resolution of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the generation of (*S*)-1-phenylethyl acetate.



**Figure S13.** Effect of temperature on the kinetic resolution of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the generation of (*S*)-1-phenylethyl acetate.



**Figure S14.** Effect of enzyme concentration on the kinetic resolution of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the generation of (*S*)-1-phenylethyl acetate.



**Figure S15.** Effect of substrate concentration on the kinetic resolution of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the generation of (*S*)-1-phenylethyl acetate.



**Figure S16.** Effect of reaction time on the kinetic resolution of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the generation of (*S*)-1-phenylethyl acetate.



**Figure S17.** The operational stability of the immobilized extracellular [protease](D:/%E9%B2%81%E5%A4%A7%E5%B8%88/Youdao/Dict/6.3.69.8341/resultui/frame/javascript:void(0);) from *Bacillus* sp. DL-2.



**Figure S18.** Reusability study showing the conversion and the enantiomeric excess (*e.e.*) in the asymmetric hydrolysis of (±)-1-phenylethyl acetate catalyzed by immobilized extracellular proteases of *Bacillus* sp. DL-2 for the preparation of (*R*)-1-phenylethanol and (*S*)-1-phenylethyl acetate.

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**Table S1.** The buffers of different pH.

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| --- | --- | --- | --- |
| pH | buffer | pH | buffer |
| 5.0 | Sodium citrate | 7.5 | Tris/HCl |
| 5.5 | Sodium citrate | 8.0 | Tris/HCl |
| 6.0 | Sodium phosphate | 8.5 | Tris/HCl |
| 6.5 | Sodium phosphate | 9.0 | Tris/HCl |
| 7.0 | Sodium phosphate | 9.0 | Gly/NaOH |
| 7.5 | Sodium phosphate | 9.5 | Gly/NaOH |
| 8.0 | Sodium phosphate | 10.0 | Gly/NaOH |