

Table S1 Comparison of optimum temperature and pH of laccases from different sources

Source	Molecular mass (kDa)	optimum activity (SGZ ^a)	Stability range	K_m (SGZ ^a)	Specific activity (U/mg)	References
<i>Halomonas Antarctica</i>	68.4	pH 7.5, 45°C	>85% of its activity at pH 6.5, 7.5 and 8.5 for 180 min; >60% at 45°C for 180 min	10.6	0.66	This study
<i>Ganoderma leucocontextum</i>	65.0	pH 3.0, 70°C	>90% of its activity for 16 min at pH 3.0, 70°C	1.658		Umar, A.and Ahmed, S.,2022
<i>Bacillus pumilus</i> TCCC 11568	58.0	pH 5.5, 80°C (for ABTS ^b)	80% of its activity at 60°C for 120min; 65.5% of its activity at pH 3.0 for 10 days	No	180	Li Tao et al.,2022
<i>Marinomonas profundimaris</i>	48.3	pH 7.5, 50°C	89.2% after 2 h at 50 °C	2.2	0.44	Fei Chang et al.,2022

<i>Marine microbes</i>	47.9	pH 7.0, 45°C	Stable at pH 5.5–9.0 and 15–45 °C	4.5	1.0	Fang ZM et al.,2022
<i>Anoxybacillus ayderensis</i> SK3-4	29.8	pH 7.0, 75°C	>80% of its activity for 3 h at pH 6.5–8.5 and 75 °C	14.2	3.2	Jingjing Wang et al.,2020

a=Syringaldazine.

b= 2,2'-azino-bis (3-ethylbenzothiazol-5-yl)-sulfonic acid

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