Supplementary Materials

Table S1. Describes the different types and specific charecterstics of DyPs isolated from various bacterial strains.

Clas	Name	Source	Substrate	λmax	Condition	k_{cat}/K_m ($s^{-1}M^{-1}$)	Ref
A	TcDyP	*Thermomonospora curvata*	Reactive Blue5	595 nm	pH 3.0 22 °C	6.6×10^5	(Chen et al., 2015)
			Reactive Blue19	595 nm	pH 3.0 22 °C	7.8×10^6	
A	TfuDyP	*Thermobifida fusca*	Reactive Blue4	598 nm			(Rahmanpour, Rea, Jamshidi, Fülöp, & Bugg, 2016)
A	CboDyP	*Cellulomonas bogoriensis*	Reactive Blue 19	595 nm	pH 4.0	1.3×10^4	(Habib, Rozeboom, & Fraaije, 2019)
A	SviDyP	*Saccharomonospora viridis*	Reactive Blue 19		pH 7.0		(Yu et al., 2014)
B	DyPB	*Rhodococcus jostii*RHA1	Reactive Blue4			1.4×10^2	(Roberts et al., 2011)
			pyrogallol			6.0×10^2	
			ABTS			2.4×10^3	
B	PpDyP	*Pseudomonas putida* MET94	Reactive Blue 5		pH 4.2	2.0×10^5	(Mendes et al., 2015)
B	VcDyP	*Vibrio cholerae*	Reactive Blue 5			2.6×10^4	(Uchida, Sasaki, Tanaka, & Ishimori, 2015)

			Reactive Blue4		pH 3.0 22 ℃	6.5×10^{5}	
			Reactive black 5		pH 3.0	3.6×10^{2}	
B	BsDyP	*Bacillus subtilis*	Malachite green	595 nm	pH 4.0	6.3×10^{2}	(Dhankhar et al., 2020)
			Methyl violet		pH 4.0	3.6×10^{2}	
			Reactive Blue19		pH 3.5	3.5×10^{5}	
B	DyPA	*Rhodococcus jostii*RHA1	Reactive Blue4		pH 4.0	1.3×10^{4}	(Roberts et al., 2011)
			ABTS			2.0×10^{3}	
B	BIDyP	*Brevi bacterium linens*					(Sutter et al., 2008)
C	SaDyP 2	*Streptomyces avermitilis*	Acid Blue 324	608 nm	pH 4.0	1.2×10^{4}	(Sugawara et al., 2017)
			ABTS		pH 4.5	1.7×10^{3}	
C	AnaPX	*Anabaena sp*	Reactive Blue5			1.2×10^{7}	(Yoshida et al., 2016)
C	DyP2	*Amycolatopsis sp*. 75iv2	Reactive Blue5			7.1×10^{5}	(Brown, Barros, & Chang, 2012)
D	AauDyP	*Auricularia auricula-judae*	ortho-nitrophenol		pH 4.5	1.2×10^{4}	(Büttner et al., 2015)
			meta-nitropheno		pH 4.5	1.0×10^{4}	
			para-nitrophenol		pH 4.5	2.1×10^{3}	
D	IlDyP	*Irpex lacteus*	Reactive Blue 19		pH 4.0	1.1×10^{6}	(Salvachúa, Prieto, Martínez Á, & Martínez, 2013)
			Reactive Black 5		pH 3.0	5.9×10^{6}	
			ABTS		pH 3.0	8.0×10^{6}	

D	Dyp	*Geotrichum candidum* Dec 1	Reactive Blue 5	556 nm	pH 5.5 30 °C	4.8×10^{6}	(Kim & Shoda, 1999)
D	AauDyP2	*Auricularia auricula-judae*	Reactive Blue 5		pH 4.5	1.7×10^{7}	(Liers et al., 2013)
D	Pleos-DyP1	Pleurotus ostreatus	Reactive Blue 19		pH 4.5	1.1×10^{5}	(Fernández-Fueyo et al., 2015)
D	Pleos-DyP4	Pleurotus ostreatus	Reactive Blue 19		pH 4.5	1.9×10^{6}	
D	rPsaDyP	Pleurotus sapidus	Guaiacol Reactive Blue 5 ABTS			1.0×10^{5} 7.5×10^{5} 3.8×10^{6}	(Lauber et al., 2017)

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