

Figure S1: Schematic representation of all 30 isolated strains, which were isolated from five soil samples after being cultured within nanoliter droplets under synthetic polymer stress. a) shows under which polymer the isolates were obtained, b) shows the soil samples from which these strains were isolated.

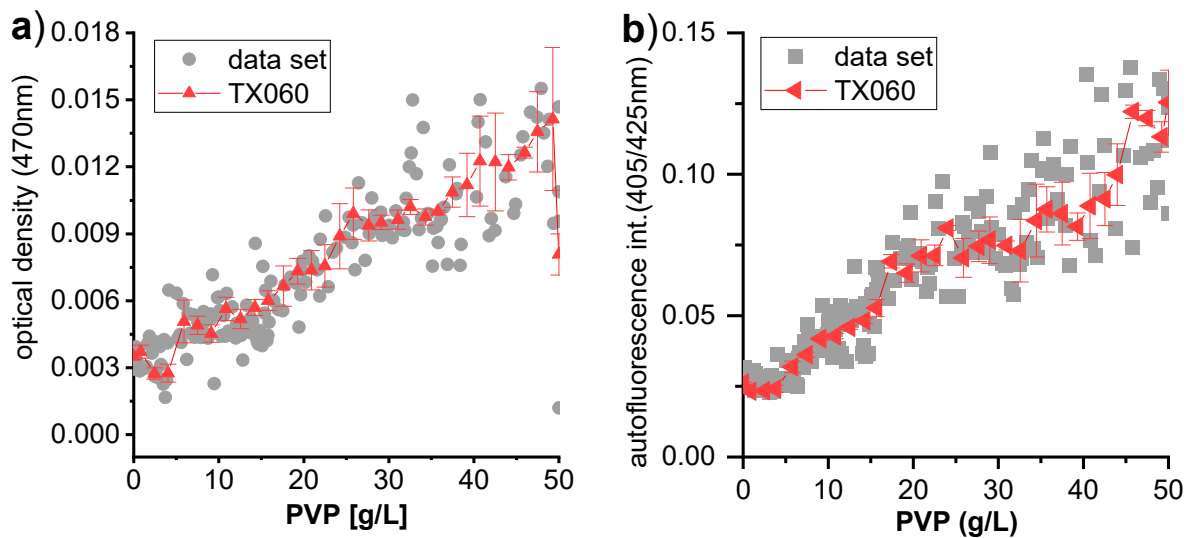
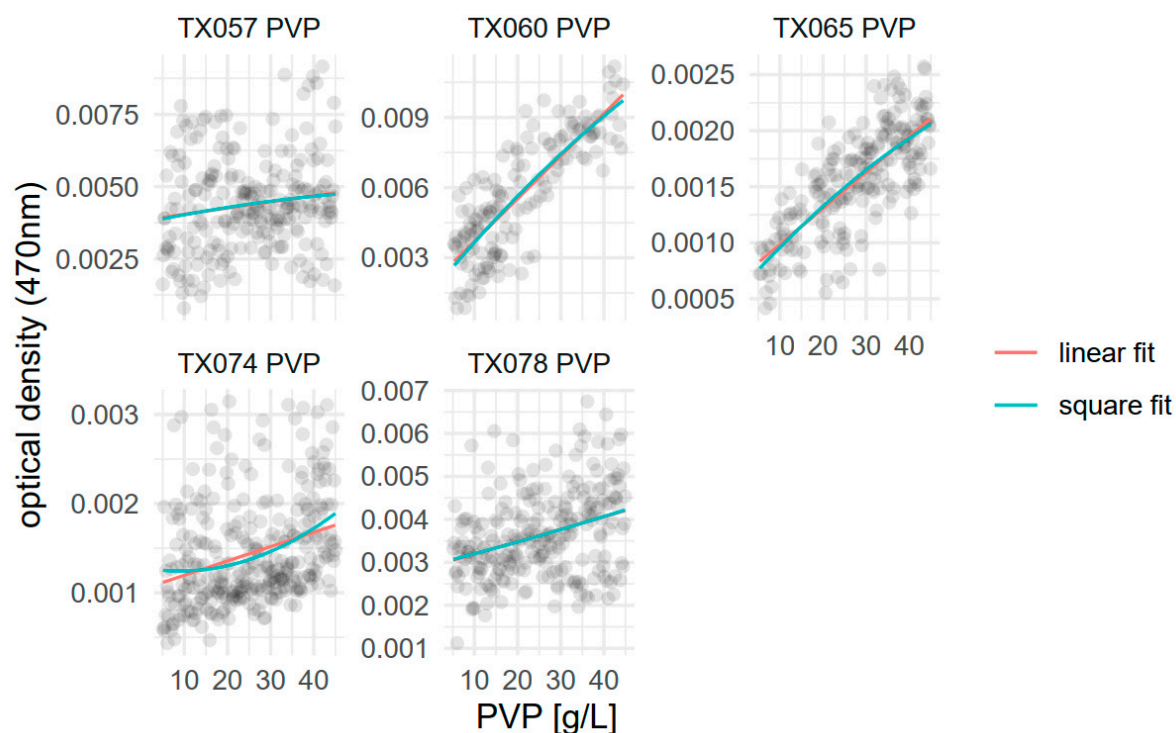
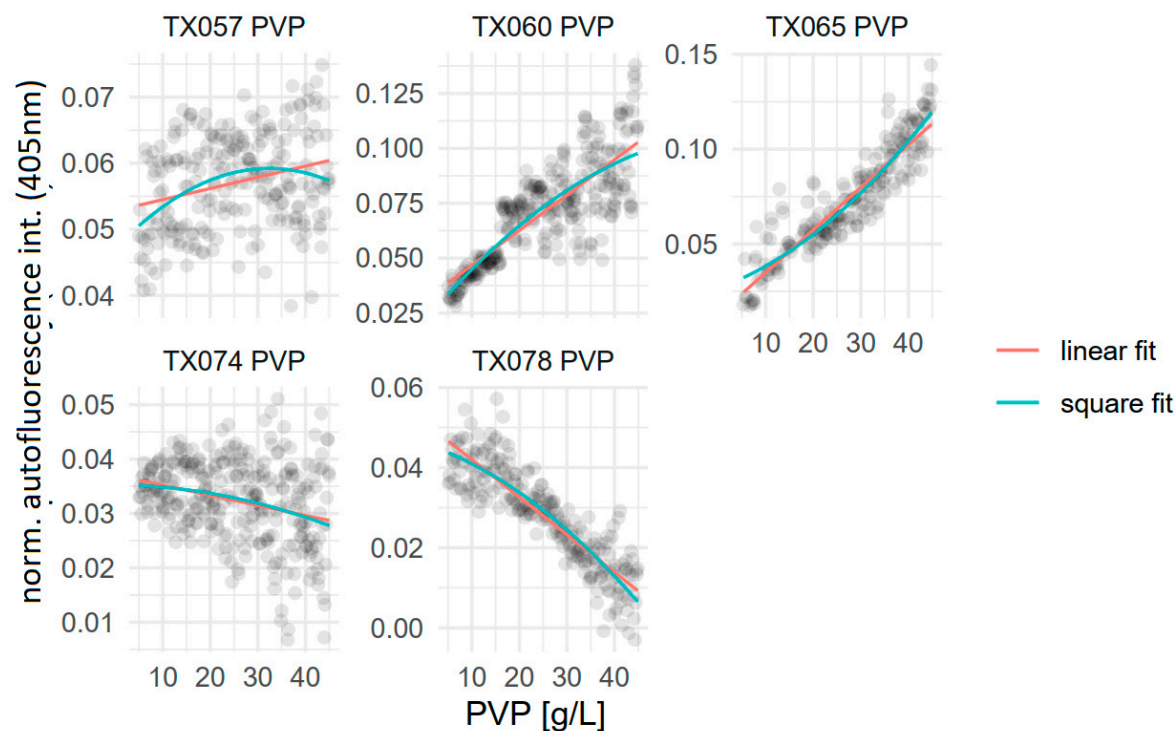


Figure S2: A representative example of how the microdroplet raw data is visualized and treated for each experiment.



Name	term	estimate	std.error	statistic	p.value	conf.low	conf.high
TX057 PVP	(Intercept)	0.00383	0.000255	15	6.41e-35	0.00305	0.00461
TX057 PVP	concentration	2.14e-05	9.2e-06	2.32	0.419	-6.73e-06	4.95e-05
TX060 PVP	(Intercept)	0.00188	0.000237	7.93	9.02e-12	0.00115	0.0026
TX060 PVP	concentration	0.000182	9.91e-06	18.4	4.5e-39	0.000152	0.000213
TX065 PVP	(Intercept)	0.000662	5.69e-05	11.6	2.95e-23	0.000488	0.000836
TX065 PVP	concentration	3.22e-05	1.92e-06	16.8	1.35e-39	2.63e-05	3.8e-05
TX074 PVP	(Intercept)	0.00104	7.7e-05	13.5	2e-31	0.000801	0.00127
TX074 PVP	concentration	1.61e-05	2.78e-06	5.79	3.47e-07	7.62e-06	2.45e-05
TX078 PVP	(Intercept)	0.00291	0.000146	19.9	9.84e-52	0.00246	0.00335
TX078 PVP	concentration	2.89e-05	5.25e-06	5.51	1.84e-06	1.29e-05	4.49e-05

Figure S3: Dose-response raw data curves of isolated *Achromobacter spanius* strains TX057, TX060, TX065, TX074 and TX078 against PVP. Raw data show the optical density of the segments measured by microphotometry. The linear regression fit curve and the estimated values including confidence intervals and p-values.



Name	term	estimate	std.error	statistic	p.value	conf.low	conf.high
TX057 PVP	(Intercept)	0.0528	0.00108	48.9	1.87e-123	0.0495	0.0561
TX057 PVP	concentration	0.000169	3.9e-05	4.33	0.000438	4.98e-05	0.000288
TX060 PVP	(Intercept)	0.0306	0.00183	16.7	1.97e-43	0.025	0.0361
TX060 PVP	concentration	0.00161	6.63e-05	24.2	4.66e-71	0.0014	0.00181
TX065 PVP	(Intercept)	0.0125	0.00204	6.17	6.96e-08	0.00632	0.0188
TX065 PVP	concentration	0.00224	6.85e-05	32.7	1.04e-83	0.00203	0.00245
TX074 PVP	(Intercept)	0.037	0.000993	37.3	1.34e-114	0.034	0.0401
TX074 PVP	concentration	-0.000185	3.58e-05	-5.18	8.23e-06	-0.000295	-7.62e-05
TX078 PVP	(Intercept)	0.0514	0.000874	58.8	7.75e-145	0.0487	0.0541
TX078 PVP	concentration	-0.000938	3.14e-05	-29.9	3.47e-82	-0.00103	-0.000842

Figure S4: Dose-response curves raw data of isolated *Achromobacter spanius* strains TX057, TX060, TX065, TX074 and TX078 against PVP. Raw data show the normalized autofluorescence intensity of the segments measured by microfluorimetry. The linear and square regression fit curve and the estimated values including confidence intervals and p-values.