

Figure 1: Two-pulse echo field-sweep spectrum of reduced TYW1-P variant (temperature 8 K, $\pi/2$ pulse length 16 ns, π pulse length 32 ns, τ value 200 ns, shot repetition rate 2 kHz, frequency 9.7171 GHz).

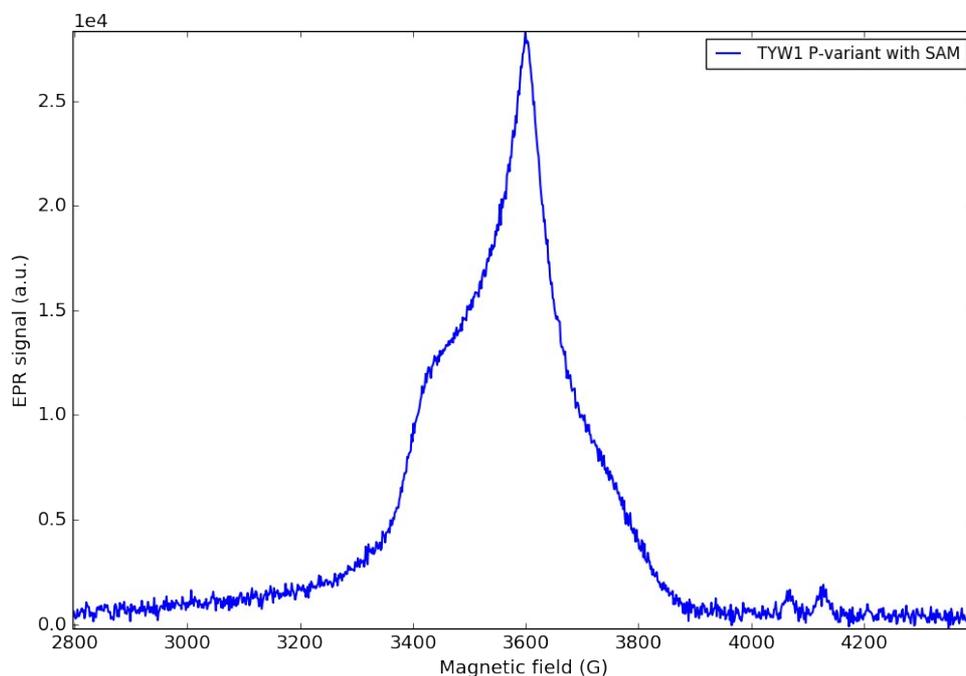


Figure 2: Two-pulse echo field-sweep spectrum of reduced TYW1-P variant treated with SAM solution (temperature 8 K, $\pi/2$ pulse length 16 ns, π pulse length 32 ns, τ value 200 ns, shot repetition rate 2 kHz, microwave frequency 9.7164 GHz).

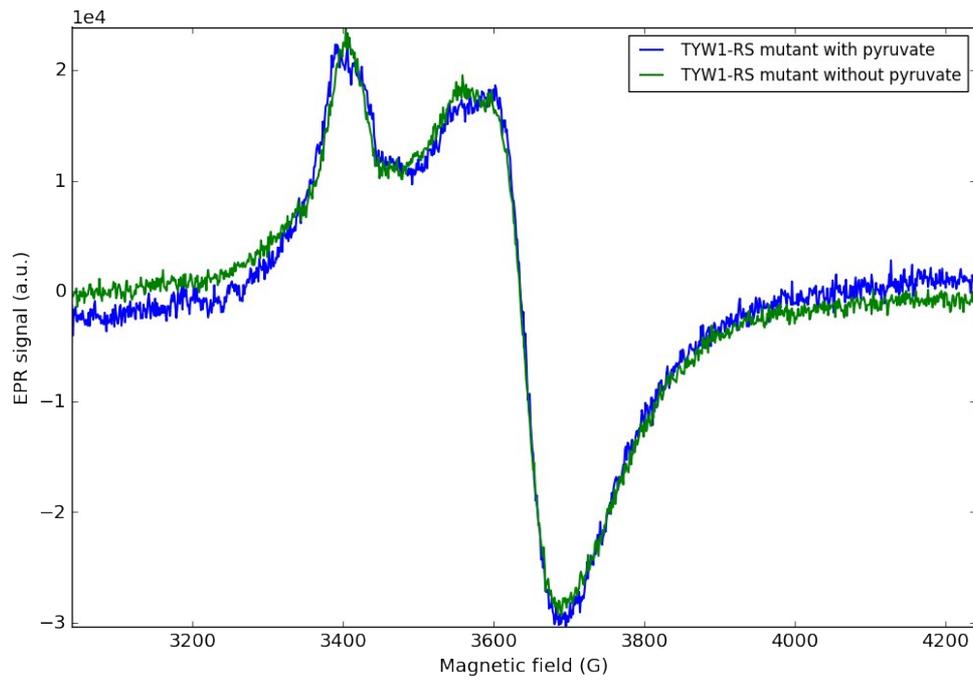


Figure 3: CW EPR spectrum of reduced TYW1-RS variant (green) and treated with pyruvate solution (blue). Temperature 8K, microwave power 0.8 mW, microwave frequency 9.65 GHz, modulation amplitude 5G.

assignment	spectrum	δ (mm/s)	ΔE_Q (mm/s)	%
Fe^{II}	Figure 1 D	1.10	3.40	15
	Figure 1E	1.10	3.40	11
	Figure 1F	1.19	2.96	40
	Figure 5A	0.72	3.59	13
Fe^{III}-DTT	Figure 5A	0.53	0.21	18

Table: Mössbauer simulation parameters for quadrupole doublets assigned to species other than 4Fe4S clusters.