Table S7: Inputs for quadratic and linear simulations *a* and *b* guesses

Column titles: Variable Name (Categorical Dependent Variable), Linear/Polynomial (Fit of raw data), Independent Variable (magnetic field parameter), Maximum RMSE over 10 -200% B (constant A) (Largest value obtained of the RMSE by varying one coefficient (A or B) from 10 -200 %), Maximum RMSE over 10 – 200% A (constant B)

Monoatomic refers to a polynomial that is strictly increasing or decreasing. Polynomial refers to a polynomial that increases and decreases.

Variable Name	Linear/ Polynomial	Independent Variable	Maximum RMSE over 10-200% B (constant A)	Maximum RMSE over 10-200% A (constant B)
Maturation	Linear	Frequency	550 (polynomial)	
	Polynomial	Frequency	900 (polynomial)	900 (polynomial)
	Linear	Magnitude	17000 (monoatomic)	
	Polynomial	Magnitude	1100 (polynomial)	8000 (polynomial)
	Linear	Percent	340000 (monoatomic)	
	Polynomial	Percent	~0 (linear)	5.75e7 (linear)
	Linear	Total Time	300 (polynomial)	
	Polynomial	Total Time	600 (polynomial)	500 (polynomial)
Neuron Differentiation	Linear	Magnitude	22 (linear)	
	Polynomial	Magnitude	25 (linear)	2 (linear)
	Linear	Total time	2250 (linear)	
	Polynomial	Total time	1300 (polynomial)	1000 (polynomial)
Viability	Linear	Magnitude	26 (polynomial, monoatomic)	
	Polynomial	Magnitude	35 (polynomial, monoatomic)	4 (linear)
	Linear	Percent	800000 (linear)	
	Polynomial	Percent	~0 (linear)	1.6e8 (linear)
	Linear	Total Time	1300 (polynomial, monoatomic)	
	Polynomial	Total Time	1000 (polynomial)	600 (polynomial)