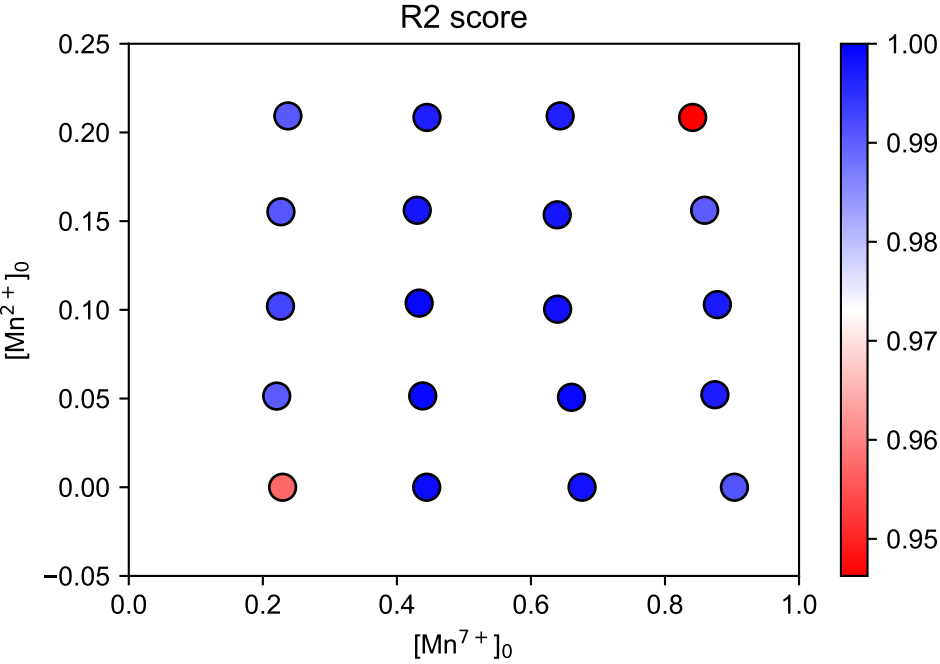


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filename: 0000

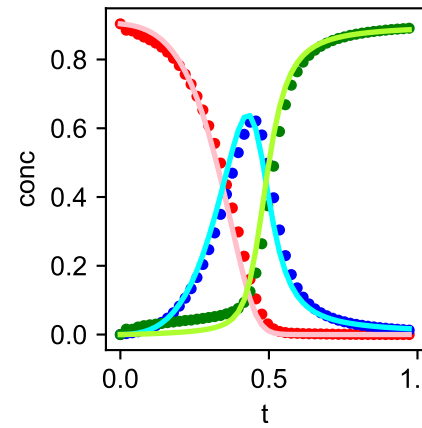
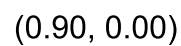
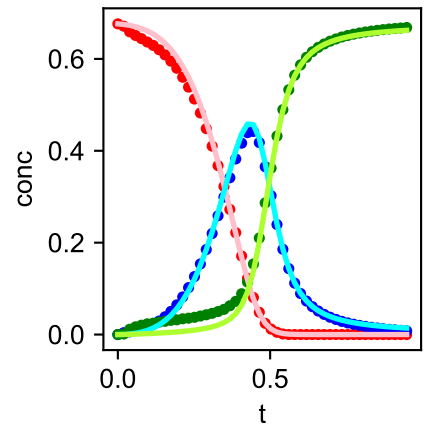
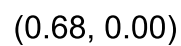
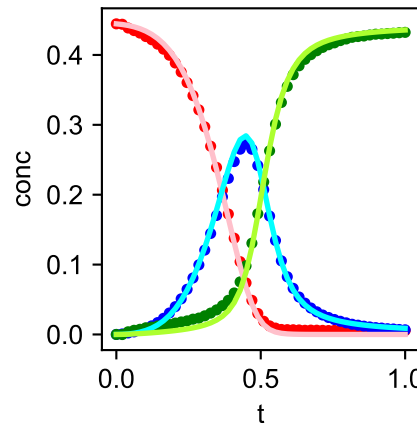
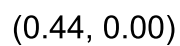
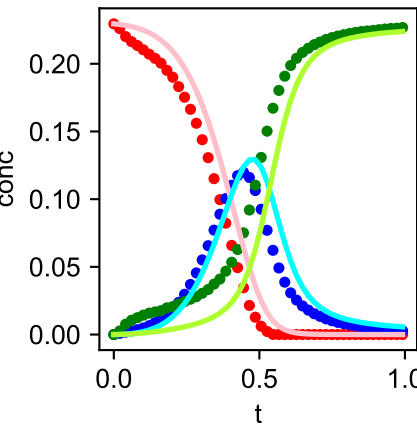
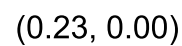
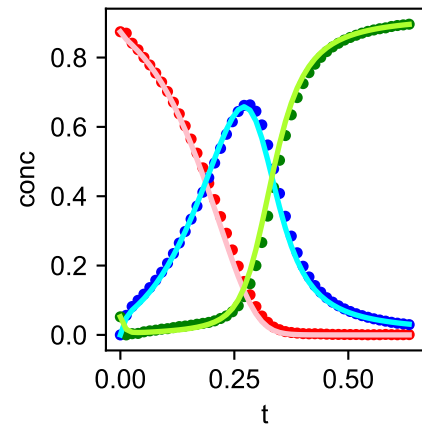
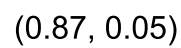
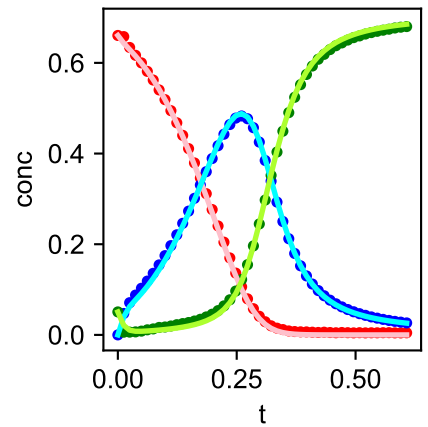
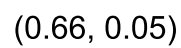
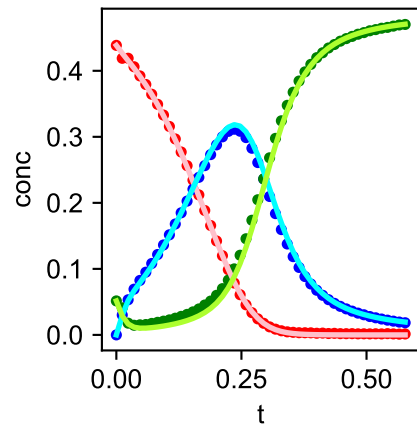
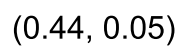
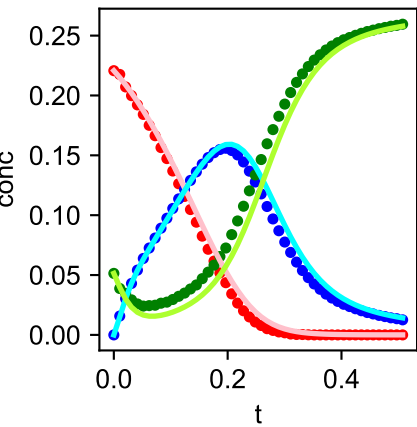
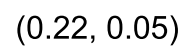
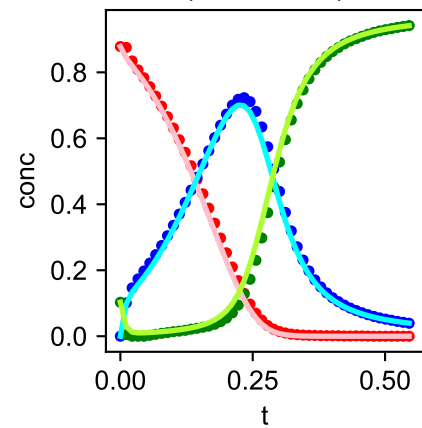
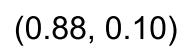
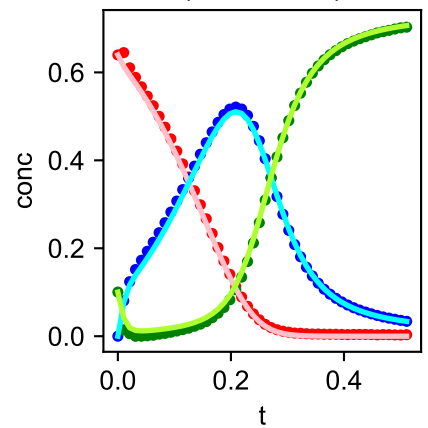
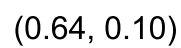
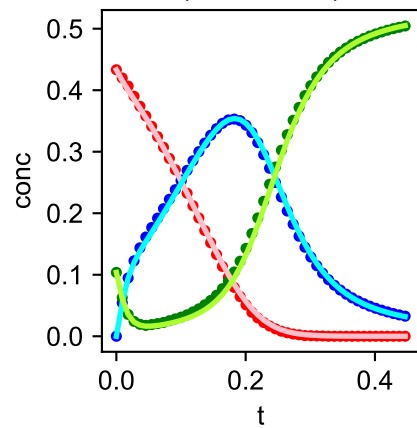
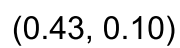
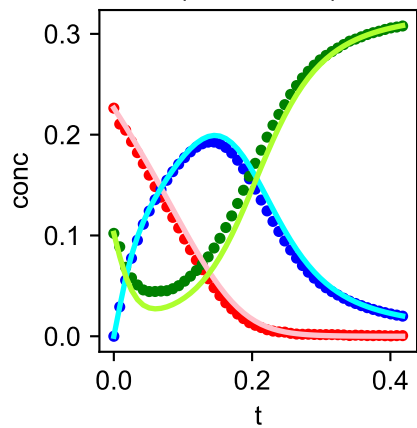
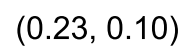
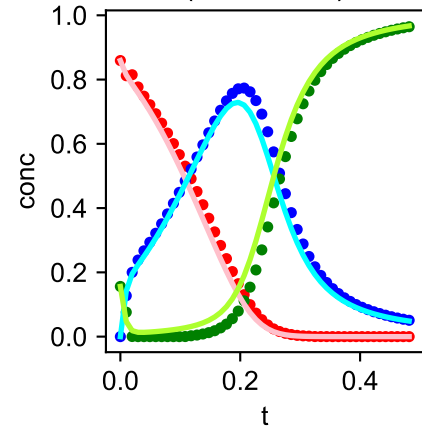
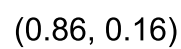
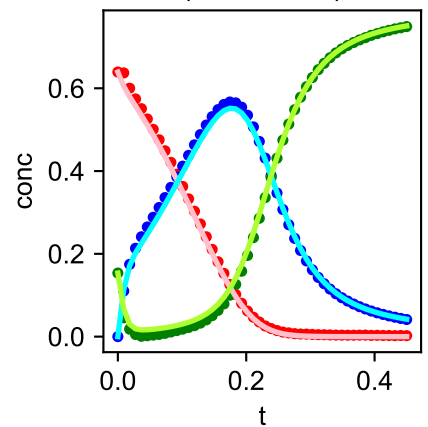
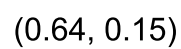
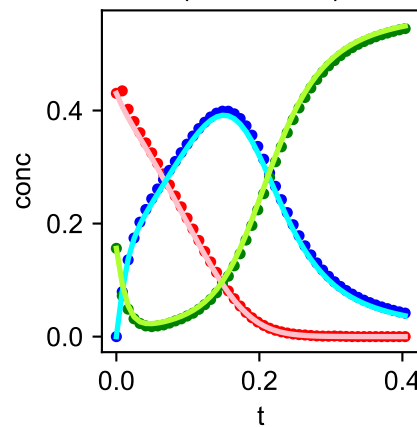
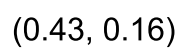
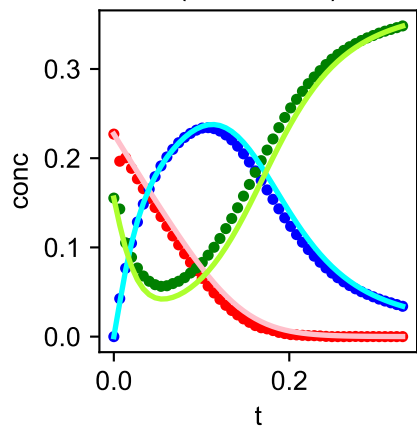
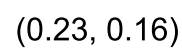
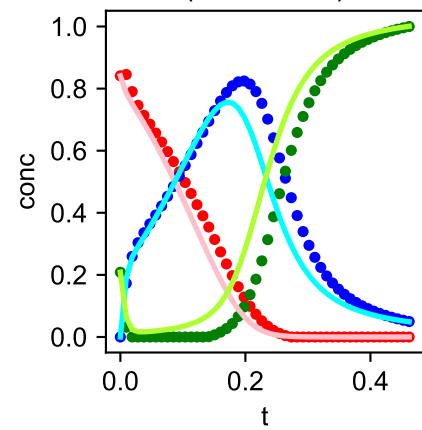
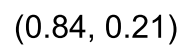
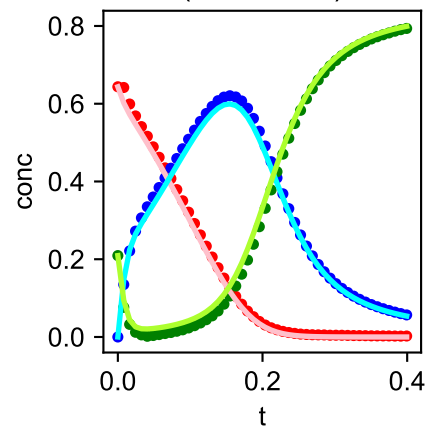
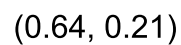
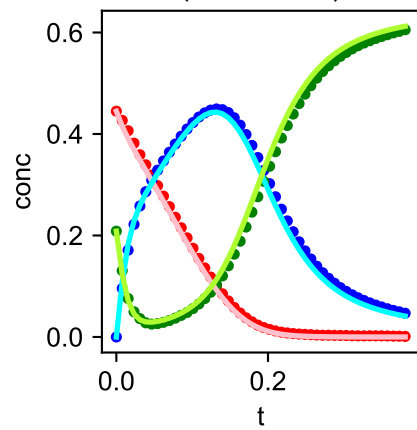
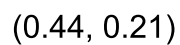
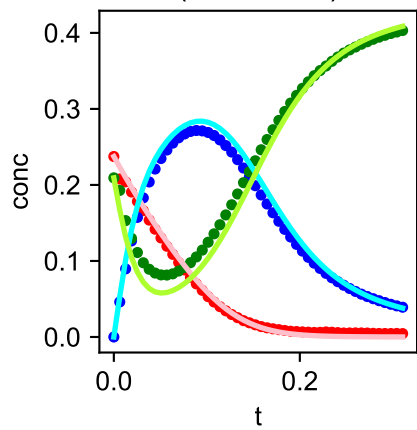
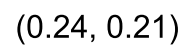
chem formula:
['Mn+7', 'Mn+3', 'Mn+2', 'C2O4-2',
'CO2', 'Mn+6', 'Mn+4', 'C2O4-1']

k_max = 1.00e+04
k_cut = 1.00e-02
lam = 0.00e+00
num_eq = 20
loss = 1.49e-03

MRSE train = 1.49e-03
MESE test = 1.36e-02



(1)	Mn+7 + Mn+3	-> Mn+6 + Mn+4	k = 0.76
(2)	Mn+7 + Mn+2	-> Mn+3 + Mn+6	k = 46.92
(3)	Mn+7 + C2O4-2	-> Mn+6 + C2O4-1	k = 0.04
(4)	2 Mn+3	-> Mn+2 + Mn+4	k = 0.00
(5)	Mn+3 + C2O4-2	-> Mn+2 + C2O4-1	k = 10.78
(6)	Mn+3 + Mn+6	-> Mn+7 + Mn+2	k = 10.89
(7)	Mn+3 + C2O4-1	-> C2O4-2 + Mn+4	k = 0.01
(8)	Mn+2 + Mn+6	-> 2 Mn+4	k = 9999.65
(9)	Mn+2 + Mn+4	-> 2 Mn+3	k = 9999.87
(10)	Mn+2 + C2O4-1	-> Mn+3 + C2O4-2	k = 97.76
(11)	C2O4-2 + Mn+4	-> Mn+3 + C2O4-1	k = 28.36
(12)	Mn+6 + Mn+4	-> Mn+7 + Mn+3	k = 3130.27
(13)	Mn+6 + C2O4-1	-> Mn+7 + C2O4-2	k = 7693.46
(14)	2 Mn+4	-> Mn+2 + Mn+6	k = 8.90
(15)	Mn+7 + C2O4-1	-> 2 CO2 + Mn+6	k = 2010.52
(16)	Mn+3 + C2O4-1	-> Mn+2 + 2 CO2	k = 719.71
(17)	C2O4-2 + Mn+6	-> 2 CO2 + Mn+4	k = 489.98
(18)	C2O4-2 + Mn+4	-> Mn+2 + 2 CO2	k = 20.48
(19)	Mn+4 + C2O4-1	-> Mn+3 + 2 CO2	k = 8306.78
(20)	2 C2O4-1	-> C2O4-2 + 2 CO2	k = 8.08


$$([Mn^{7+}]_0, [Mn^{2+}]_0)$$

— $\text{sim}(\text{Mn}^{7+})$

— sim(Mn^{3+})

— $\text{sim}(\text{Mn}^{2+})$

- $\exp(\text{Mn}^{7+})$

- $\exp(\text{Mn}^{3+})$

- $\exp(\text{Mn}^{2+})$