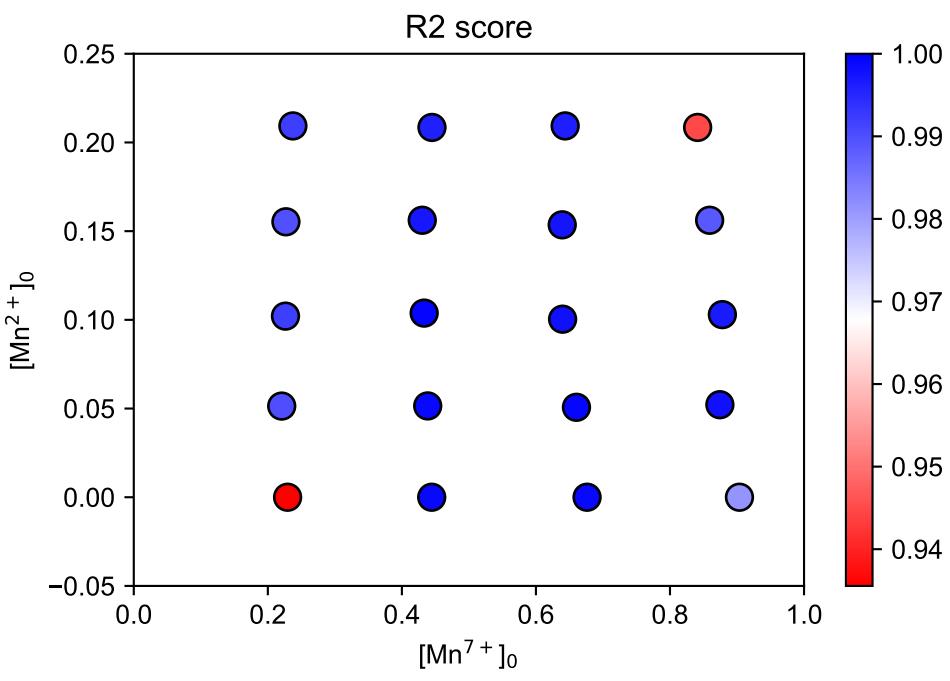
path: result/sparse_12_split
filename: 0017

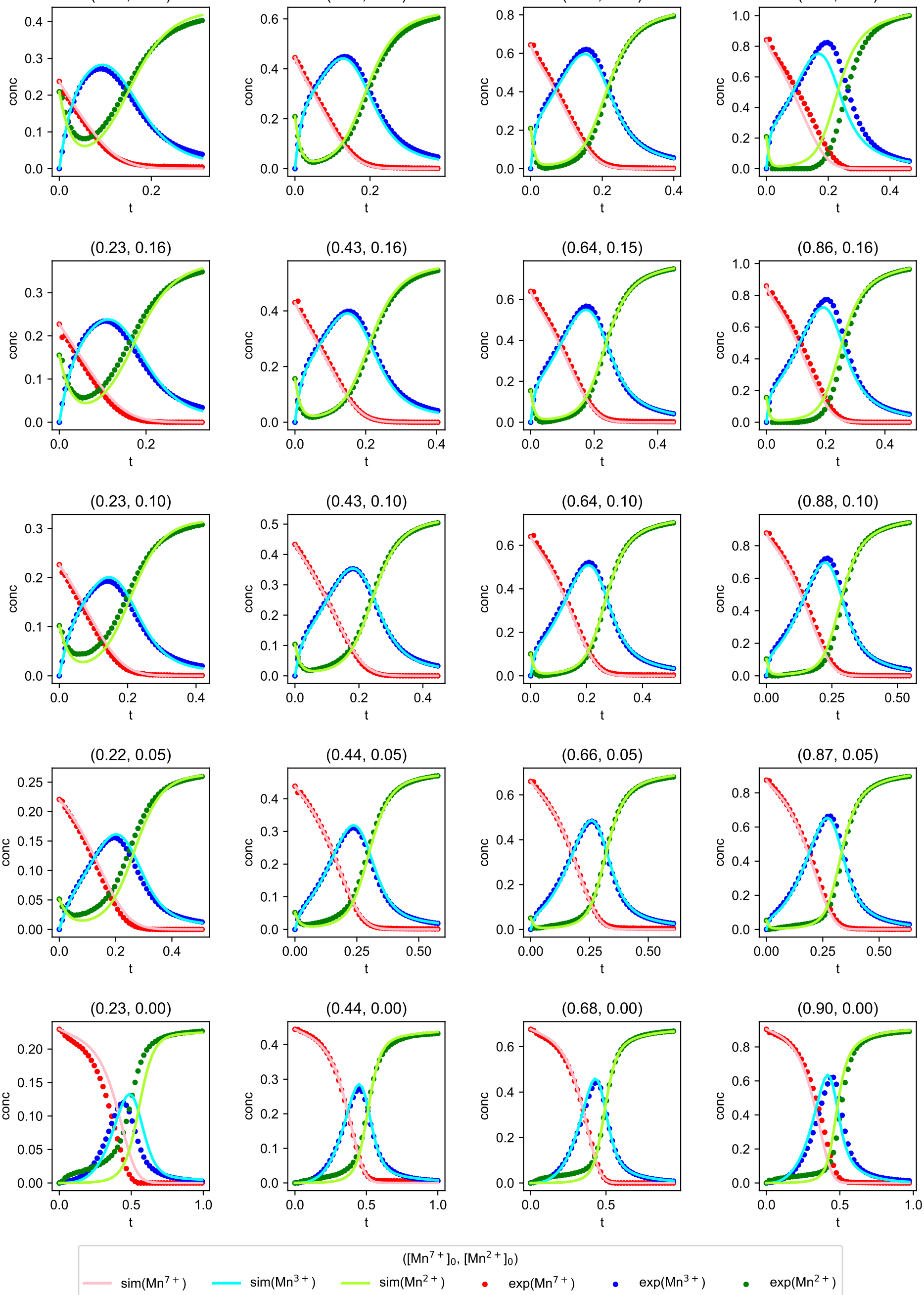
chem formula:
['Mn+7', 'Mn+3', 'Mn+2', 'C2O4-2',
'CO2', 'Mn+6', 'Mn+5', 'Mn+4', 'C2O4-1',
'CO2-1']

k_max = 1.00e+04
k_cut = 1.00e-02
lam = 1.28e-04
num_eq = 13
loss = 5.34e-03

MRSE train = 1.54e-03
MESE test = 1.66e-02




```
( 1) Mn+7 + Mn+2      -> Mn+5 + Mn+4      k = 45.47
( 2) Mn+7 + C2O4-2    -> Mn+6 + C2O4-1    k = 0.45
( 3) Mn+7 + CO2-1     -> CO2 + Mn+6       k = 1019.66
( 4) Mn+3 + C2O4-2    -> Mn+2 + C2O4-1    k = 1.34
( 5) Mn+3 + CO2-1     -> Mn+2 + CO2       k = 395.85
( 6) Mn+2 + Mn+6      -> Mn+3 + Mn+5      k = 9991.06
( 7) Mn+2 + Mn+5      -> Mn+3 + Mn+4      k = 9979.44
( 8) Mn+2 + Mn+4      -> 2 Mn+3           k = 9867.62
( 9) Mn+2 + C2O4-1    -> Mn+3 + C2O4-2    k = 9.24
(10) C2O4-2 + Mn+4    -> Mn+3 + C2O4-1    k = 365.86
(11) Mn+3 + C2O4-2    -> Mn+2 + CO2 + CO2-1 k = 9.85
(12) C2O4-2 + Mn+5    -> Mn+3 + 2 CO2     k = 367.71
(13) Mn+6 + C2O4-1    -> 2 CO2 + Mn+5     k = 437.69
```


(0.24, 0.21)
(0.44, 0.21)
(0.64, 0.21)
(0.84, 0.21)
(0.23, 0.16)
(0.43, 0.16)
(0.64, 0.15)
(0.86, 0.16)
(0.23, 0.10)
(0.43, 0.10)
(0.64, 0.10)
(0.88, 0.10)
(0.22, 0.05)
(0.44, 0.05)
(0.66, 0.05)
(0.87, 0.05)
(0.23, 0.00)
(0.44, 0.00)
(0.68, 0.00)
(0.90, 0.00)
conc
t
([Mn7+]0, [Mn2+]0)
sim(Mn7+)
sim(Mn3+)
sim(Mn2+)
exp(Mn7+)
exp(Mn3+)
exp(Mn2+)