Results for Cell Type #1

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type1

Beta = 1.9576, x0 value = 5.1107, alpha1 = 0.14157, alpha2 = 3.0746

R values at each time stamp

0.7211

0.7786

0.6184

Square error 37.0355

Results for Cell Type #2

Local minimum found that satisfies the constraints.

Optimization completed because the objective function is non-decreasing in feasible directions, to within the default value of the optimality tolerance, and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type2

Beta = 1.7796, x0 value = 4.7823, alpha1 = 0.38044, alpha2 = -0.65197

R values at each time stamp

0.7082

0.7569

0.5806

Square error 39.3590

Results for Cell Type #3

Local minimum found that satisfies the constraints.

Optimization completed because the objective function is non-decreasing in feasible directions, to within the default value of the optimality tolerance, and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

```
NDMwSwM for cell type3

Beta = 2.0893, x0 value = 5.2753 ,alpha1 = 0.41766 ,alpha2 = -4.1015
```

R values at each time stamp

0.7273

0.7651

0.5824

Square error 38.7101

Results for Cell Type #4

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type4

Beta = 2.9816, x0 value = 7.0578, alpha1 = 0.17204, alpha2 = 2.1615

R values at each time stamp

0.7687

0.7485

0.5786

Square error 38.2280

Results for Cell Type #5

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type5

Beta = 2.5332, x0 value = 5.5269, alpha1 = 0.19965, alpha2 = 5

R values at each time stamp

0.7483

0.7561

Square error 37.1763

Results for Cell Type #6

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type6

Beta = 1.8335, x0 value = 4.784, alpha1 = 0.41652, alpha2 = -1.0506

R values at each time stamp

0.7122

0.7722

0.5907

Square error 38.6286

Results for Cell Type #7

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type7

Beta = 1.9481, x0 value = 5.0983, alpha1 = 0.38306, alpha2 = -0.71216

R values at each time stamp

0.7194

0.7601

0.5778

Square error 39.2103

Results for Cell Type #8

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type8

Beta = 1.8769, x0 value = 4.9284, alpha1 = 0.30416, alpha2 = 0.8051

R values at each time stamp

0.7145

0.7611

0.5782

Square error 39.3017

Results for Cell Type #9

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type9

Beta = 2.935, x0 value = 7.5587, alpha1 = 0.15452, alpha2 = 5

R values at each time stamp

0.7777

0.7617

0.6796

Square error 33.8282

Results for Cell Type #10

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type10

```
Beta = 1.6441, x0 value = 4.5593, alpha1 = 0.34674, alpha2 = 1.1695
```

R values at each time stamp

0.6991

0.7603

0.5915

Square error 39.0426

Results for Cell Type #11

Local minimum found that satisfies the constraints.

Optimization completed because the objective function is non-decreasing in feasible directions, to within the default value of the optimality tolerance, and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type11

Beta = 1.6269, x0 value = 4.5844, alpha1 = 0.32327, alpha2 = 2.8499

R values at each time stamp

0.6996

0.7593

0.6231

Square error 37.5616

Results for Cell Type #12

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type12

Beta = 1.8678, x0 value = 5.0508, alpha1 = 0.34797, alpha2 = 0.11363

R values at each time stamp

0.7149

0.7566

0.5783

```
Square error 39.3941
```

Results for Cell Type #13

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type13

Beta = 3.0092, x0 value = 5.9895, alpha1 = 0.10358, alpha2 = 4.9997

R values at each time stamp

0.7625

0.7569

0.5887

Square error 37.4625

Results for Cell Type #14

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type14

Beta = 2.9396, x0 value = 5.1393, alpha1 = 0.17437, alpha2 = 5

R values at each time stamp

0.7570

0.7712

0.6140

Square error 35.9766

Results for Cell Type #15

Local minimum found that satisfies the constraints.

Optimization completed because the objective function is non-decreasing in feasible directions, to within the default value of the optimality tolerance,

and constraints are satisfied to within the default value of the constraint tolerance. <stopping criteria details> NDMwSwM for cell type15 Beta = 1.7688, x0 value = 4.8857, alpha1 = 0.33001, alpha2 = 1.3117R values at each time stamp 0.7081 0.7574 0.5923 Square error 38.9488 Results for Cell Type #16 Local minimum found that satisfies the constraints. Optimization completed because the objective function is non-decreasing in feasible directions, to within the default value of the optimality tolerance, and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type16

Beta = 1.88, x0 value = 5.0695, alpha1 = 0.32198, alpha2 = 0.4754

R values at each time stamp

0.7153

0.7578

0.5823

Square error 39.2383

Results for Cell Type #17

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type17

Beta = 1.9977, x0 value = 5.2592, alpha1 = 0.30907, alpha2 = 0.55653

```
R values at each time stamp
```

0.7612

0.5767

Square error 39.1839

Results for Cell Type #18

Local minimum found that satisfies the constraints.

Optimization completed because the objective function is non-decreasing in feasible directions, to within the default value of the optimality tolerance, and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type18

Beta = 2.2517, x0 value = 5.8988, alpha1 = 0.47655, alpha2 = -2.5803

R values at each time stamp

0.7416

0.7739

0.6388

Square error 35.7408

Results for Cell Type #19

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type19

Beta = 2.0137, $\times 0$ value = 5.4877, alpha1 = 0.37982, alpha2 = -0.82448

R values at each time stamp

0.7259

0.7596

0.5797

Square error 39.1170

Results for Cell Type #20

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type20

Beta = 2.0634, $\times 0$ value = 5.6586, alpha1 = 0.39967, alpha2 = -5

R values at each time stamp

0.7296

0.7535

0.5870

Square error 38.8867

Results for Cell Type #21

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type21

Beta = 1.5728, x0 value = 4.6639 ,alpha1 = 0.28986 ,alpha2 = 2.6228

R values at each time stamp

0.6963

0.7733

0.6404

Square error 36.8684

Results for Cell Type #22

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

```
NDMwSwM for cell type22
```

Beta = 1.8744, x0 value = 5.0436, alpha1 = 0.28277, alpha2 = 0.93519

R values at each time stamp

0.7155

0.7618

0.5788

Square error 39.2987

Results for Cell Type #23

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type23

Beta = 1.9638, x0 value = 5.1937, alpha1 = 0.13838, alpha2 = 4.9992

R values at each time stamp

0.7215

0.7674

0.5905

Square error 38.5009

Results for Cell Type #24

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type24

Beta = 1.5682, x0 value = 4.9904, alpha1 = 0.91883, alpha2 = -2.5223

R values at each time stamp

0.6981

0.7777

Square error 34.0647

Results for Cell Type #25

Local minimum possible. Constraints satisfied.

fmincon stopped because the size of the current step is less than the default value of the step size tolerance and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>

NDMwSwM for cell type25

Beta = 2.0179, x0 value = 5.4226, alpha1 = 0.47969, alpha2 = -4.9998

R values at each time stamp

0.7253

0.7536

0.5821

Square error 39.0583

ans =

1×2 table

Var1 square_error

[1x25 double] [1x25 double]

>> close all

>> square_error

square_error =

Columns 1 through 8

37.0355 39.3590 38.7101 38.2280 37.1763 38.6286 39.2103 39.3017

Columns 9 through 16

33.8282 39.0426 37.5616 39.3941 37.4625 35.9766 38.9488 39.2383

Columns 17 through 24

39.1839 35.7408 39.1170 38.8867 36.8684 39.2987 38.5009 34.0647

```
Column 25
```

>> square_error = square_error'

square_error =

37.0355

39.3590

38.7101

38.2280

37.1763

38.6286

39.2103

39.3017

33.8282

39.0426

37.5616

39.3941

37.4625

35.9766

38.9488

39.2383

39.1839

35.7408 39.1170

38.8867

36.8684

39.2987

38.5009

34.0647

39.0583

>>