Electronic supplementary material

**Correlating in vitro performance with physico-chemical characteristics of nanofibrous scaffolds for skin tissue engineering using supervised machine learning algorithms**

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Table S1 Scaffolding data representing the initial dataset of 182 observations, four features (fibre diameter, pore diameter, water contact angle, Young’s modulus) and the target variable (number of cells) used in this study.

| family_ID | family_name | family_content | triplicates | nb_cells | fibre_diameter | pore_diameter | contact_angle | youngs_modulus |
|-----------|-------------|----------------|-------------|----------|----------------|---------------|---------------|----------------|
| fam_1     | PHB/KCG     | 100/0          | t1          | 53876    | 2.17           | 3.4           | 125.7         | 545.11         |
| fam_1     | PHB/KCG     | 100/0          | t2          | 54226    | 0.41           | 0.72          | 124.8         | 476.7          |
| fam_1     | PHB/KCG     | 100/0          | t3          | 60103    | 1.19           | 1.75          | 126.8         | 532.8          |
| fam_1     | PHB/KCG     | 90/10          | t1          | 46319    | 1.75           | 3.73          | 122           | 300.3          |
| fam_1     | PHB/KCG     | 90/10          | t2          | 41142    | 0.13           | 0.34          | 118.2         | 311.4          |
| fam_1     | PHB/KCG     | 90/10          | t3          | 61083    | 0.62           | 1.06          | 119.5         | 204.3          |
| fam_1     | PHB/KCG     | 80/20          | t1          | 38763    | 1.5            | 1.95          | 108.6         | 185            |
| fam_1     | PHB/KCG     | 80/20          | t2          | 35614    | 0.23           | 0.46          | 106           | 123.5          |
| fam_1     | PHB/KCG     | 80/20          | t3          | 32606    | 0.62           | 0.89          | 106.8         | 174.3          |
| fam_1     | PHB/KCG     | 70/30          | t1          | 45890    | 1.39           | 2.91          | 107.2         | 79.5           |
| fam_1     | PHB/KCG     | 70/30          | t2          | 42961    | 0.11           | 0.42          | 97.6          | 91.2           |
| fam_1     | PHB/KCG     | 70/30          | t3          | 25399    | 0.61           | 1.02          | 102.3         | 101.2          |
| fam_2     | PHBV/KCG    | 100/0          | t1          | 74377    | 0.63           | 1.44          | 121           | 247.3          |
| fam_2     | PHBV/KCG    | 100/0          | t2          | 76686    | 0.23           | 0.28          | 110.2         | 182.3          |
| fam_2     | PHBV/KCG    | 100/0          | t3          | 69199    | 0.42           | 0.75          | 107           | 162            |
| fam_2     | PHBV/KCG    | 90/10          | t1          | 72558    | 1.53           | 2.47          | 75.5          | 144.1          |
| fam_2     | PHBV/KCG    | 90/10          | t2          | 67100    | 0.29           | 0.44          | 88.3          | 162.5          |
| fam_2     | PHBV/KCG    | 90/10          | t3          | 39742    | 0.64           | 0.9           | 94.1          | 173.4          |
| fam_2     | PHBV/KCG    | 80/20          | t1          | 57375    | 1.35           | 1.65          | 62            | 103.9          |
| fam_2     | PHBV/KCG    | 80/20          | t2          | 44640    | 0.27           | 0.23          | 67.8          | 136.8          |
| fam_2     | PHBV/KCG    | 80/20          | t3          | 33165    | 0.64           | 0.85          | 63            | 94.5           |
| fam_2     | PHBV/KCG    | 70/30          | t1          | 42611    | 1.11           | 2.7           | 56.7          | 103.6          |
| fam_3     | PDX/FUC     | 100/0          | t1          | 33235    | 0.57           | 359.9         | 32.1          | 72.8           |
| fam_3     | PDX/FUC     | 100/0          | t2          | 38693    | 0.11           | 97.51         | 32.1          | 66.8           |
| fam_3     | PDX/FUC     | 100/0          | t3          | 25189    | 0.33           | 195.01        | 32.1          | 81.9           |
| fam_3     | PDX/FUC     | 90/10          | t1          | 3918     | 0.43           | 402.66        | 32.1          | 64.89          |
| fam_3     | PDX/FUC     | 90/10          | t2          | 6297     | 0.08           | 108.99        | 32.1          | 64.6           |
| fam_3     | PDX/FUC     | 90/10          | t3          | 12315    | 0.17           | 180.24        | 32.1          | 79.3           |
| fam_3     | PDX/FUC     | 80/20          | t1          | 16723    | 0.33           | 589.59        | 32.1          | 42.6           |
| fam_3     | PDX/FUC     | 80/20          | t2          | 15393    | 0.1            | 81.76         | 32.1          | 36.6           |
| fam_3     | PDX/FUC     | 80/20          | t3          | 8956     | 0.2            | 209.37        | 32.1          | 35.2           |
| fam_3     | PDX/FUC     | 70/30          | t1          | 13224    | 0.37           | 529.93        | 32.1          | 47.1           |
| fam_3     | PDX/FUC     | 70/30          | t2          | 25399    | 0.14           | 63.25         | 32.1          | 33.3           |
| fam_3     | PDX/FUC     | 70/30          | t3          | 24839    | 0.24           | 223.79        | 32.1          | 24.7           |
| family_ID | family_name | family_content | triplicates | nb_cells | fibre_diameter | pore_diameter | contact_angle | youngs_modulus |
|-----------|-------------|---------------|------------|----------|----------------|---------------|---------------|----------------|
| fam_4     | PDX/KCG    | 100/0         | t1         | 23439    | 1.66           | 3.33          | 32.1          | 72.8           |
| fam_4     | PDX/KCG    | 100/0         | t2         | 25189    | 0.62           | 0.88          | 32.1          | 66.8           |
| fam_4     | PDX/KCG    | 100/0         | t3         | 21550    | 1.14           | 2.1           | 32.1          | 81.9           |
| fam_4     | PDX/KCG    | 90/10         | t1         | 23650    | 1.85           | 2.8           | 32.1          | 64.7           |
| fam_4     | PDX/KCG    | 90/10         | t2         | 27708    | 0.65           | 0.62          | 32.1          | 77.3           |
| fam_4     | PDX/KCG    | 90/10         | t3         | 14134    | 1.04           | 1.45          | 32.1          | 74             |
| fam_4     | PDX/KCG    | 80/20         | t1         | 20920    | 1.22           | 3.2           | 32.1          | 35.4           |
| fam_4     | PDX/KCG    | 80/20         | t2         | 14833    | 0.38           | 0.73          | 32.1          | 45.8           |
| fam_4     | PDX/KCG    | 80/20         | t3         | 14064    | 0.88           | 1.29          | 32.1          | 46.7           |
| fam_4     | PDX/KCG    | 70/30         | t1         | 34215    | 0.97           | 1.45          | 32.1          | 32.1           |
| fam_4     | PDX/KCG    | 70/30         | t2         | 30926    | 0.13           | 0.51          | 32.1          | 42.9           |
| fam_4     | PDX/KCG    | 70/30         | t3         | 26588    | 0.5            | 0.85          | 32.1          | 39.7           |
| fam_5     | PDX/PHBV   | 100/0         | t1         | 26798    | 0.65           | 1.98          | 32.1          | 72.8           |
| fam_5     | PDX/PHBV   | 100/0         | t2         | 22880    | 0.22           | 0.56          | 32.1          | 66.8           |
| fam_5     | PDX/PHBV   | 100/0         | t3         | 25189    | 0.44           | 1.04          | 32.1          | 81.9           |
| fam_5     | PDX/PHBV   | 90/10         | t1         | 30017    | 1.6            | 3.31          | 32.1          | 85.6           |
| fam_5     | PDX/PHBV   | 90/10         | t2         | 23230    | 0.21           | 0.51          | 32.1          | 92.9           |
| fam_5     | PDX/PHBV   | 90/10         | t3         | 21970    | 0.92           | 1.59          | 32.1          | 108.4          |
| fam_5     | PDX/PHBV   | 80/20         | t1         | 16513    | 1.29           | 2.36          | 103.2         | 66.6           |
| fam_5     | PDX/PHBV   | 80/20         | t2         | 28617    | 0.15           | 0.53          | 107.6         | 71.9           |
| fam_5     | PDX/PHBV   | 80/20         | t3         | 24279    | 0.66           | 1.21          | 104.7         | 80.3           |
| fam_5     | PDX/PHBV   | 70/30         | t1         | 16163    | 1.16           | 2.51          | 116.7         | 79.3           |
| fam_5     | PDX/PHBV   | 70/30         | t2         | 35754    | 0.27           | 0.27          | 120.7         | 109            |
| fam_5     | PDX/PHBV   | 70/30         | t3         | 25819    | 0.61           | 1.16          | 121.3         | 112.8          |
| fam_6     | PDX/Psuc   | 100/0         | t1         | 40610    | 1.08           | 14.66         | 32.1          | 46.37          |
| fam_6     | PDX/Psuc   | 100/0         | t2         | 28268    | 1            | 4.03          | 32.1          | 45.25          |
| fam_6     | PDX/Psuc   | 100/0         | t3         | 38245    | 1.02           | 7.98          | 32.1          | 63.68          |
| fam_6     | PDX/Psuc   | 90/10         | t1         | 29863    | 0.69           | 10.78         | 32.1          | 54.79          |
| fam_6     | PDX/Psuc   | 90/10         | t2         | 18612    | 0.96           | 2.42          | 32.1          | 35.44          |
| fam_6     | PDX/Psuc   | 90/10         | t3         | 52687    | 0.85           | 5.51          | 32.1          | 38.73          |
| fam_6     | PDX/Psuc   | 80/20         | t1         | 33473    | 0.81           | 8.15          | 32.1          | 28.77          |
| fam_6     | PDX/Psuc   | 80/20         | t2         | 93423    | 0.76           | 2.69          | 32.1          | 37.46          |
| fam_6     | PDX/Psuc   | 80/20         | t3         | 45214    | 0.76           | 4.44          | 32.1          | 28.22          |
| fam_6     | PDX/Psuc   | 70/30         | t1         | 29611    | 0.65           | 7.61          | 32.1          | 81.93          |
| fam_6     | PDX/Psuc   | 70/30         | t2         | 37084    | 0.72           | 1.36          | 32.1          | 60.05          |
| fam_6     | PDX/Psuc   | 70/30         | t3         | 57641    | 0.76           | 3.45          | 32.1          | 107.76         |
| fam_6     | PDX/Psuc   | 60/40         | t1         | 49510    | 0.74           | 6.07          | 32.1          | 80.1           |
| fam_6     | PDX/Psuc   | 60/40         | t2         | 185110   | 0.69           | 1.55          | 32.1          | 67.25          |
| fam_6     | PDX/Psuc   | 60/40         | t3         | 68724    | 0.7            | 3.29          | 32.1          | 27.32          |
| family_ID | family_name | family_content | triplicates | nb_cells | fibre_diameter | pore_diameter | contact_angle | youngs_modulus |
|-----------|-------------|----------------|-------------|----------|----------------|---------------|---------------|----------------|
| fam_6     | PDX/Psuc    | 50/50          | t1          | 26504    | 0.7            | 6.18          | 32.1          | 32.14          |
| fam_6     | PDX/Psuc    | 50/50          | t2          | 2911     | 0.63           | 1.51          | 32.1          | 35.22          |
| fam_6     | PDX/Psuc    | 50/50          | t3          | 24979    | 0.63           | 2.56          | 32.1          | 31.6           |
| fam_7     | PLLA/Psuc   | 100/0          | t1          | 31961    | 1.09           | 9.36          | 140.3         | 235            |
| fam_7     | PLLA/Psuc   | 100/0          | t2          | 57403    | 1              | 2.87          | 143.6         | 250            |
| fam_7     | PLLA/Psuc   | 100/0          | t3          | 64861    | 1.05           | 4.89          | 140           | 220            |
| fam_7     | PLLA/Psuc   | 90/10          | t1          | 64120    | 0.98           | 6.64          | 134.1         | 119            |
| fam_7     | PLLA/Psuc   | 90/10          | t2          | 37503    | 0.93           | 1.63          | 134.3         | 104            |
| fam_7     | PLLA/Psuc   | 90/10          | t3          | 58312    | 0.87           | 4.22          | 136.9         | 104            |
| fam_7     | PLLA/Psuc   | 80/20          | t1          | 55388    | 0.78           | 6.58          | 134.3         | 118            |
| fam_7     | PLLA/Psuc   | 80/20          | t2          | 42373    | 0.82           | 1.92          | 134.4         | 110            |
| fam_7     | PLLA/Psuc   | 80/20          | t3          | 70571    | 0.84           | 3.16          | 133.2         | 115            |
| fam_7     | PLLA/Psuc   | 70/30          | t1          | 57235    | 0.76           | 5.13          | 131.3         | 90             |
| fam_7     | PLLA/Psuc   | 70/30          | t2          | 18276    | 0.71           | 1.16          | 125.5         | 88             |
| fam_7     | PLLA/Psuc   | 70/30          | t3          | 79639    | 0.69           | 2.45          | 122.1         | 79             |
| fam_7     | PLLA/Psuc   | 60/40          | t1          | 52701    | 0.66           | 2.81          | 131.7         | 96             |
| fam_7     | PLLA/Psuc   | 60/40          | t2          | 37671    | 0.67           | 1.21          | 133.6         | 85             |
| fam_7     | PLLA/Psuc   | 60/40          | t3          | 57641    | 0.69           | 2.01          | 133.5         | 91             |
| fam_7     | PLLA/Psuc   | 50/50          | t1          | 55388    | 0.63           | 3.98          | 92.1          | 97             |
| fam_7     | PLLA/Psuc   | 50/50          | t2          | 37839    | 0.66           | 1.04          | 78.8          | 132            |
| fam_7     | PLLA/Psuc   | 50/50          | t3          | 31192    | 0.61           | 2.05          | 73.8          | 69             |
| fam_8     | PLLA/CA     | 100/0          | t1          | 31961    | 1.26           | 9.36          | 142.5         | 235.34         |
| fam_8     | PLLA/CA     | 100/0          | t2          | 57403    | 0.66           | 2.87          | 140.6         | 250.16         |
| fam_8     | PLLA/CA     | 100/0          | t3          | 64861    | 0.96           | 4.8           | 139           | 220.59         |
| fam_8     | PLLA/CA     | 0/100          | t1          | 2995     | 0.63           | 1.1           | 132.8         | 105.84         |
| fam_8     | PLLA/CA     | 0/100          | t2          | 12147    | 0.8            | 0.52          | 134.1         | 75.2           |
| fam_8     | PLLA/CA     | 0/100          | t3          | 14987    | 0.72           | 0.87          | 136.4         | 90.04          |
| fam_8     | PLLA/CA     | 90/10          | t1          | 49258    | 1.15           | 2.67          | 138.7         | 229.17         |
| fam_8     | PLLA/CA     | 90/10          | t2          | 29779    | 0.61           | 1.91          | 137.5         | 250.44         |
| fam_8     | PLLA/CA     | 90/10          | t3          | 80646    | 0.88           | 2.28          | 138.9         | 275.91         |
| fam_8     | PLLA/CA     | 80/20          | t1          | 21718    | 1.17           | 3.29          | 139.9         | 139.6          |
| fam_8     | PLLA/CA     | 80/20          | t2          | 13994    | 0.47           | 2.21          | 140           | 191.36         |
| fam_8     | PLLA/CA     | 80/20          | t3          | 20445    | 0.82           | 2.7           | 138.8         | 188.96         |
| fam_8     | PLLA/CA     | 70/30          | t1          | 8452     | 0.83           | 4.63          | 119.6         | 55.66          |
| fam_8     | PLLA/CA     | 70/30          | t2          | 21802    | 0.4            | 2.59          | 118.5         | 62.32          |
| fam_8     | PLLA/CA     | 70/30          | t3          | 20865    | 0.62           | 3.32          | 120.3         | 4.99           |
| fam_8     | PLLA/CA     | 60/40          | t1          | 21551    | 0.8            | 3.18          | 127.5         | 41.16          |
| fam_8     | PLLA/CA     | 60/40          | t2          | 17772    | 0.24           | 1.75          | 127.2         | 23.63          |
| fam_8     | PLLA/CA     | 60/40          | t3          | 28002    | 0.52           | 2.42          | 128.5         | 58.78          |
| family_ID | family_name           | family_content | triplicates | nb_cells | fibre_diameter | pore_diameter | contact_angle | youngs_modulus |
|-----------|-----------------------|----------------|-------------|----------|----------------|---------------|---------------|----------------|
| fam_8     | PLLA/CA               | 50/50          | t1          | 3498     | 0.68           | 2.61          | 116.5         | 92.7           |
| fam_8     | PLLA/CA               | 50/50          | t2          | 8704     | 0.28           | 1.44          | 118.8         | 119.6          |
| fam_8     | PLLA/CA               | 50/50          | t3          | 10453    | 0.48           | 1.91          | 116.6         | 100.9          |
| fam_9     | PLLA/cellulose        | 0/100          | t1          | 16681    | 0.37           | 2.04          | 25            | 143.21         |
| fam_9     | PLLA/cellulose        | 0/100          | t2          | 31962    | 0.17           | 0.87          | 25            | 185.3          |
| fam_9     | PLLA/cellulose        | 0/100          | t3          | 46390    | 0.27           | 1.5           | 25            | 158.51         |
| fam_9     | PLLA/cellulose        | 90/10          | t1          | 16849    | 1.16           | 2.67          | 97.4          | 300.74         |
| fam_9     | PLLA/cellulose        | 90/10          | t2          | 33725    | 0.52           | 1.91          | 96.7          | 233.71         |
| fam_9     | PLLA/cellulose        | 90/10          | t3          | 51511    | 0.84           | 2.28          | 97.5          | 293.51         |
| fam_9     | PLLA/cellulose        | 80/20          | t1          | 19451    | 0.94           | 3.29          | 25            | 140.42         |
| fam_9     | PLLA/cellulose        | 80/20          | t2          | 26085    | 0.46           | 2.21          | 25            | 158.83         |
| fam_9     | PLLA/cellulose        | 80/20          | t3          | 57725    | 0.7            | 2.7           | 25            | 140.37         |
| fam_9     | PLLA/cellulose        | 70/30          | t1          | 6185     | 0.8            | 4.63          | 25            | 89.47          |
| fam_9     | PLLA/cellulose        | 70/30          | t2          | 43381    | 0.41           | 2.59          | 25            | 94.89          |
| fam_9     | PLLA/cellulose        | 70/30          | t3          | 49916    | 0.61           | 3.32          | 25            | 102.76         |
| fam_9     | PLLA/cellulose        | 60/40          | t2          | 45816    | 0.34           | 2.64          | 25            | 36.41          |
| fam_9     | PLLA/cellulose        | 60/40          | t3          | 15071    | 0.53           | 3.31          | 25            | 18.85          |
| fam_9     | PLLA/cellulose        | 50/50          | t1          | 42038    | 0.34           | 2.85          | 25            | 177.78         |
| fam_9     | PLLA/cellulose        | 50/50          | t2          | 34733    | 0.19           | 1.78          | 25            | 97.63          |
| fam_9     | PLLA/cellulose        | 50/50          | t3          | 19941    | 0.27           | 2.27          | 25            | 32.39          |
| fam_10    | PDX/CA                | 100/0          | t1          | 40610    | 1.08           | 14.66         | 32.1          | 46.37          |
| fam_10    | PDX/CA                | 100/0          | t2          | 28268    | 0.73           | 4.03          | 32.1          | 45.25          |
| fam_10    | PDX/CA                | 100/0          | t3          | 38245    | 1.2            | 7.98          | 32.1          | 63.68          |
| fam_10    | PDX/CA                | 90/10          | t1          | 41954    | 1.33           | 4.67          | 32.1          | 40.54          |
| fam_10    | PDX/CA                | 90/10          | t2          | 48167    | 0.66           | 1.76          | 32.1          | 47.33          |
| fam_10    | PDX/CA                | 90/10          | t3          | 45718    | 1              | 3.12          | 32.1          | 49.37          |
| fam_10    | PDX/CA                | 80/20          | t1          | 31458    | 1.43           | 3.61          | 32.1          | 95.56          |
| fam_10    | PDX/CA                | 80/20          | t2          | 37420    | 0.48           | 1.7           | 32.1          | 73.06          |
| fam_10    | PDX/CA                | 80/20          | t3          | 38833    | 0.96           | 2.49          | 32.1          | 104.12         |
| fam_10    | PDX/CA                | 70/30          | t1          | 35824    | 1              | 7.03          | 32.1          | 118.4          |
| fam_10    | PDX/CA                | 70/30          | t2          | 7865     | 0.51           | 2.8           | 32.1          | 135.71         |
| fam_10    | PDX/CA                | 70/30          | t3          | 57305    | 0.76           | 4.52          | 32.1          | 149.37         |
| fam_10    | PDX/CA                | 60/40          | t1          | 17017    | 0.95           | 2.24          | 32.1          | 167.19         |
| fam_10    | PDX/CA                | 60/40          | t2          | 7949     | 0.33           | 1.12          | 32.1          | 215.12         |
| fam_10    | PDX/CA                | 60/40          | t3          | 24895    | 0.64           | 1.83          | 32.1          | 192.97         |
| fam_10    | PDX/CA                | 50/50          | t1          | 34061    | 0.74           | 2.73          | 32.1          | 74.81          |
| fam_10    | PDX/CA                | 50/50          | t2          | 18612    | 0.38           | 1.76          | 32.1          | 49.57          |
| fam_10    | PDX/CA                | 50/50          | t3          | 38665    | 0.56           | 2.17          | 32.1          | 72.76          |
| fam_11    | PLLA/CA 1% NS         | 100/0          | t1          | 48755    | 1.08           | 9.36          | 128.2         | 149.4          |
| family_ID | family_name   | family_content | triplicates | nb_cells | fibre_diameter | pore_diameter | contact_angle | youngs_modulus |
|-----------|---------------|----------------|-------------|----------|----------------|---------------|---------------|----------------|
| fam_11    | PLLA/CA 1% NS | 100/0          | t2          | 68570    | 0.91           | 2.87          | 129.5         | 176.44         |
| fam_11    | PLLA/CA 1% NS | 100/0          | t3          | 57725    | 1              | 4.91          | 128.1         | 178.96         |
| fam_11    | PLLA/CA 1% NS | 90/10          | t1          | 22726    | 0.67           | 2.78          | 130.1         | 126.92         |
| fam_11    | PLLA/CA 1% NS | 90/10          | t3          | 44458    | 0.59           | 2.25          | 128.4         | 138.43         |
| fam_11    | PLLA/CA 1% NS | 70/30          | t1          | 10551    | 0.51           | 3.71          | 129.6         | 62.57          |
| fam_11    | PLLA/CA 1% NS | 70/30          | t2          | 23230    | 0.32           | 1.89          | 131.9         | 60.85          |
| fam_11    | PLLA/CA 1% NS | 70/30          | t3          | 12217    | 0.42           | 2.65          | 129.6         | 77.12          |
| fam_11    | PLLA/CA 1% NS | 50/50          | t1          | 2911     | 0.44           | 2.89          | 123.2         | 77.25          |
| fam_11    | PLLA/CA 1% NS | 50/50          | t2          | 20627    | 0.28           | 1.9           | 123.6         | 95.7           |
| fam_11    | PLLA/CA 1% NS | 50/50          | t3          | 5332     | 0.36           | 2.42          | 124           | 94.56          |
| fam_12    | PLLA/cellulose 1% NS | 90/10 | t1  | 51189    | 0.7         | 2.82          | 103.8     | 60.01         |
| fam_12    | PLLA/cellulose 1% NS | 90/10 | t2  | 32886    | 0.61        | 1.78          | 117.6    | 82.1          |
| fam_12    | PLLA/cellulose 1% NS | 90/10 | t3  | 40344    | 0.66        | 2.22          | 104.7    | 85.79         |
| fam_12    | PLLA/cellulose 1% NS | 70/30 | t1  | 46236    | 0.47        | 2.59          | 25       | 30.59         |
| fam_12    | PLLA/cellulose 1% NS | 70/30 | t2  | 20375    | 0.36        | 1.72          | 25       | 43.49         |
| fam_12    | PLLA/cellulose 1% NS | 70/30 | t3  | 56885    | 0.42        | 2.13          | 25       | 71.23         |
| fam_12    | PLLA/cellulose 1% NS | 50/50 | t1  | 21634    | 0.3         | 2.4           | 25       | 172.92        |
| fam_12    | PLLA/cellulose 1% NS | 50/50 | t2  | 43969    | 0.21        | 1.36          | 25       | 90.41         |
| fam_12    | PLLA/cellulose 1% NS | 50/50 | t3  | 26574    | 0.26        | 1.8           | 25       | 142           |
| fam_13    | PDX/CA 1% NS    | 100/0          | t1          | 39267    | 0.88          | 1.88          | 69.8     | 50.93         |
| fam_13    | PDX/CA 1% NS    | 100/0          | t2          | 48755    | 0.77          | 1             | 32.1     | 63.58         |
| fam_13    | PDX/CA 1% NS    | 100/0          | t3          | 63434    | 0.83          | 1.43          | 32.1     | 66.78         |
| fam_13    | PDX/CA 1% NS    | 90/10          | t1          | 74195    | 1.06          | 3.41          | 32.1     | 66.87         |
| fam_13    | PDX/CA 1% NS    | 90/10          | t2          | 48922    | 0.85          | 1.74          | 32.1     | 60.92         |
| fam_13    | PDX/CA 1% NS    | 90/10          | t3          | 77960    | 0.96          | 2.3           | 32.1     | 76.48         |
| fam_13    | PDX/CA 1% NS    | 60/40          | t1          | 28435    | 0.74          | 3.24          | 32.1     | 150.58        |
| fam_13    | PDX/CA 1% NS    | 60/40          | t2          | 18024    | 0.48          | 1.8           | 32.1     | 160.57        |
| fam_13    | PDX/CA 1% NS    | 60/40          | t3          | 58648    | 0.61          | 2.45          | 32.1     | 154.44        |
Table S2 Nanoscaffolds found in the 95% confidence interval while plotting the actual values from the test dataset against predicted values from the random forest model.

| Nanoscaffolds         | Polymer blends | Triplicates | Actual/Observed MTT Number of cells after 7 days | Predicted MTT Number of cells | Fibre diameter (µm) | Pore diameter (µm) | Water contact angle (°) | Young’s modulus (MPa) |
|-----------------------|----------------|-------------|--------------------------------------------------|-------------------------------|--------------------|--------------------|------------------------|------------------------|
| PDX                   | 100            | t2          | 25189                                            | 31508                         | 0.62               | 0.88               | 32.1                   | 66.8                   |
| PDX                   | 100            | t1          | 40610                                            | 39525                         | 1.08               | 14.66              | 32.1                   | 46.37                  |
| PDX/CA 90/10          | t2             | 48167       | 36829                                            | 0.66                          | 1.76               | 32.1               | 47.33                  |
| PDX/CA 70/30          | t3             | 57305       | 42575                                            | 0.76                          | 4.52               | 32.1               | 149.37                 |
| PDX/CA 1% NS 90/10    | t2             | 48922       | 40694                                            | 0.85                          | 1.74               | 32.1               | 60.92                  |
| PDX/KCG 70/30         | t1             | 34215       | 35622                                            | 0.97                          | 1.45               | 32.1               | 32.1                   |
| PDX/Psuc 80/20        | t1             | 33473       | 36866                                            | 0.81                          | 8.15               | 32.1               | 28.77                  |
| PDX/Psuc 60/40        | t3             | 68724       | 40872                                            | 0.7                           | 3.29               | 32.1               | 27.32                  |
| PHB/KCG 80/20         | t3             | 32606       | 45950                                            | 0.62                          | 0.89               | 106.8              | 174.3                  |
| PHB/KCG 80/20         | t2             | 35614       | 38030                                            | 0.23                          | 0.46               | 106                | 123.5                  |
| PHB/KCG 90/10         | t2             | 41142       | 50109                                            | 0.13                          | 0.34               | 118.2              | 311.4                  |
| PHB/KCG 90/10         | t3             | 61083       | 44880                                            | 0.62                          | 1.06               | 119.5              | 204.3                  |
| PHBV/KCG 80/20        | t1             | 57375       | 37554                                            | 1.35                          | 1.65               | 62                 | 103.9                  |
| PLLA 100              | t3             | 64861       | 45561                                            | 1.05                          | 4.89               | 140                | 220                    |
| PLLA/cellulose 60/40  | t3             | 15071       | 32138                                            | 0.53                          | 3.31               | 25                 | 18.85                  |
| PLLA/cellulose 1% NS  | t2             | 20375       | 31441                                            | 0.36                          | 1.72               | 25                 | 43.49                  |
| PLLA/Psuc 50/50       | t2             | 37839       | 39270                                            | 0.66                          | 1.04               | 78.8               | 132                    |
| PLLA/Psuc 70/30       | t3             | 79639       | 46285                                            | 0.69                          | 2.45               | 122.1              | 79                     |
Figure S1 Histology image showing Masson’s Trichrome staining of tissue around scaffold. The number of blood vessels within the black designated area was counted and expressed as number of blood vessels/mm².