# Supporting Information

**Low methacrylated poly (glycerol sebacate) for soft tissue engineering**

Iris Cristina Becerril-Rodriguez [a] , Frederik Claeyssens,*[a]

Abstract text goes here. The abstract should be a single paragraph that summarises the content of the article

**SI-1 Gel content analysis**

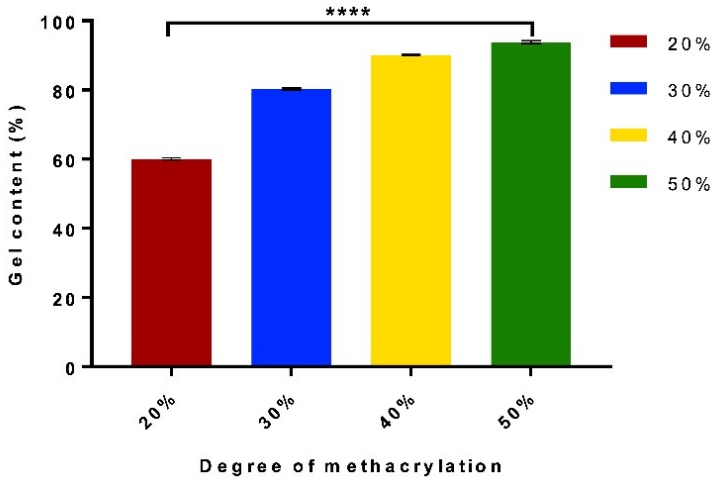


Figure S1. Effects of DM on the degree of gel content. Samples show means and error bars corresponding to ±SD (N=3, n=3), analysed by one-way ANOVA, Tukey's post-hoc pairwise comparison. P≤0.05 was considered significant.

**SI-2 Comparison of DM with the area under the peaks**

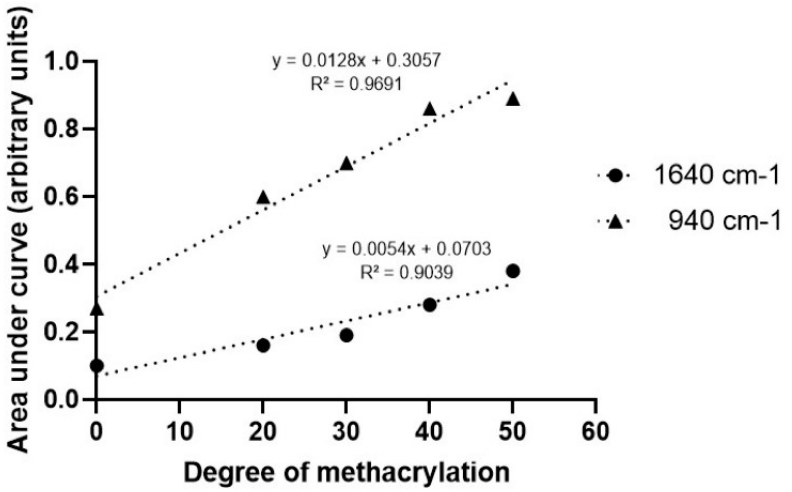


Figure S2. Comparison of DM with the area under the peaks related with methacrylate groups at 940 cm-1 and 1640 cm-1.

**SI-3 Comparison of DM with the molar ratio of methacrylic anhydride**

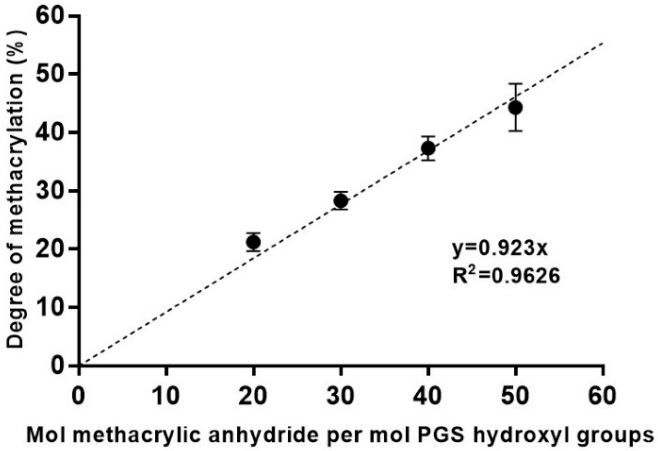


Figure S3. Comparison of PGS-M DM with the molar ratio of methacrylic anhydride per mol of pPGS hydroxyl groups. The data has a strong agreement y=0.923x and R2 = 0.9626. Error bars are SD (n = 3).

**SI-4 PGS-M thermogravimetry analysis**

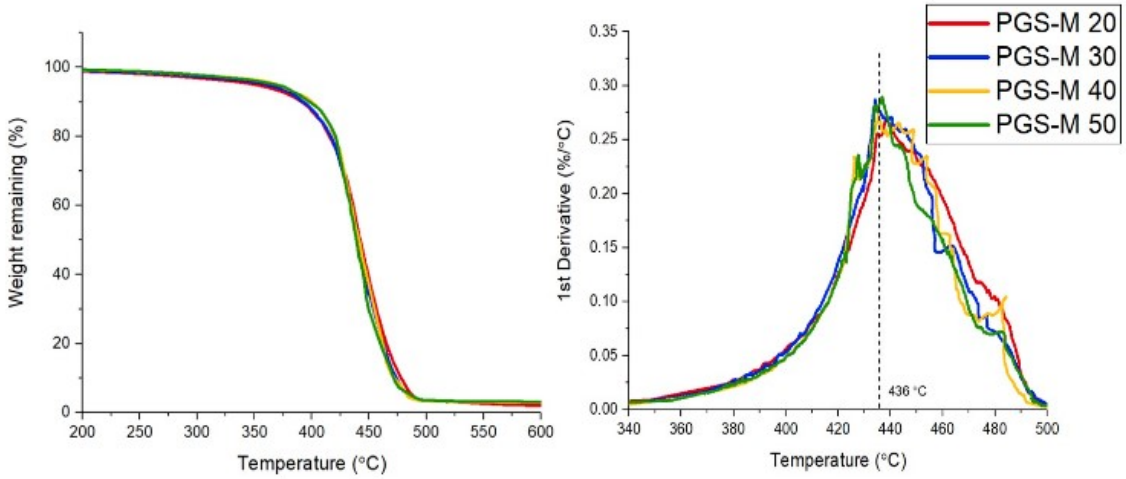


Figure S4. PGS-M thermal properties in different DM (20% - 50%).

**SI-5 PGS-M differential scanning calorimetry analysis**

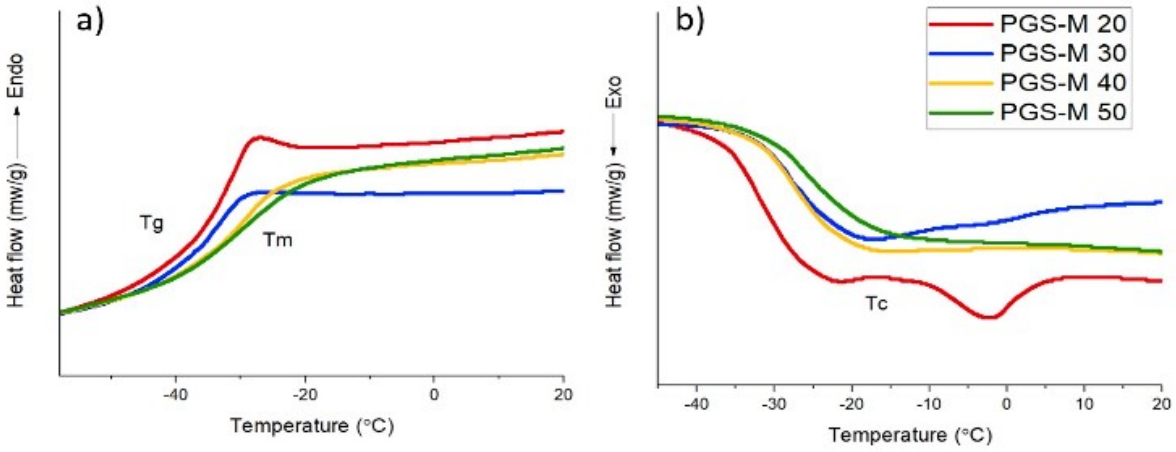


Figure S5. PGS-M thermal transitions and crystalline behaviour in different DM (20% - 50%) a) heating cycle and (b) cooling cycle.

**SI-6 In vitro degradation of photocured PGS-M**

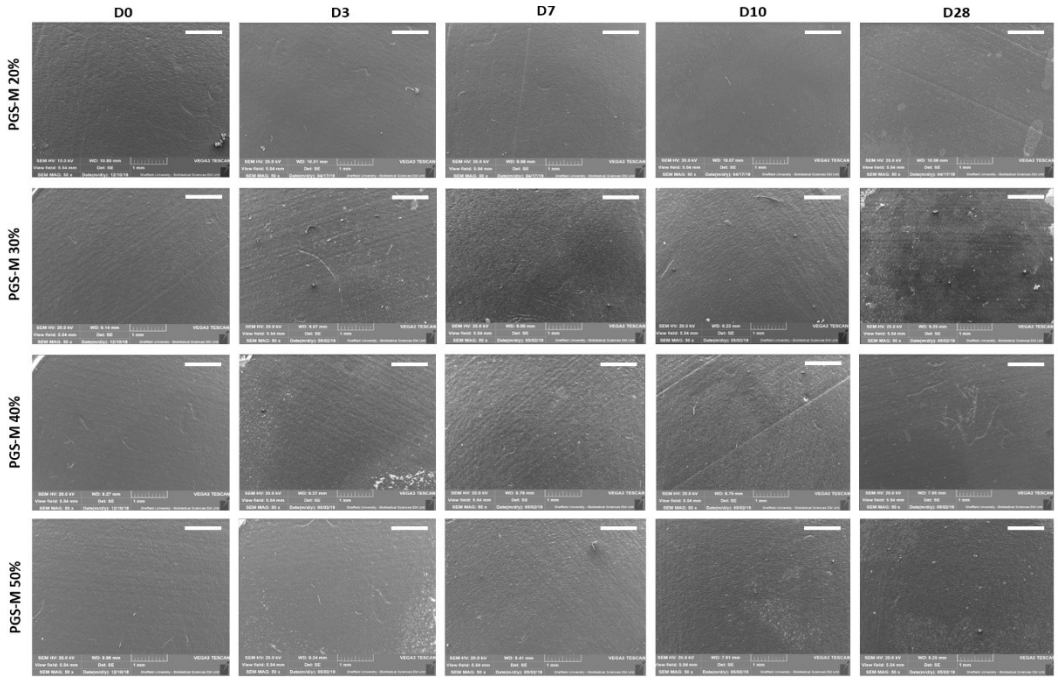


Figure S6. SEM for evaluating PGS-M (20-50% DM) degradation in PBS for 0,3,7,10, and 28 days (scale bar = 1mm).

**SI-7 Contact angle analysis**

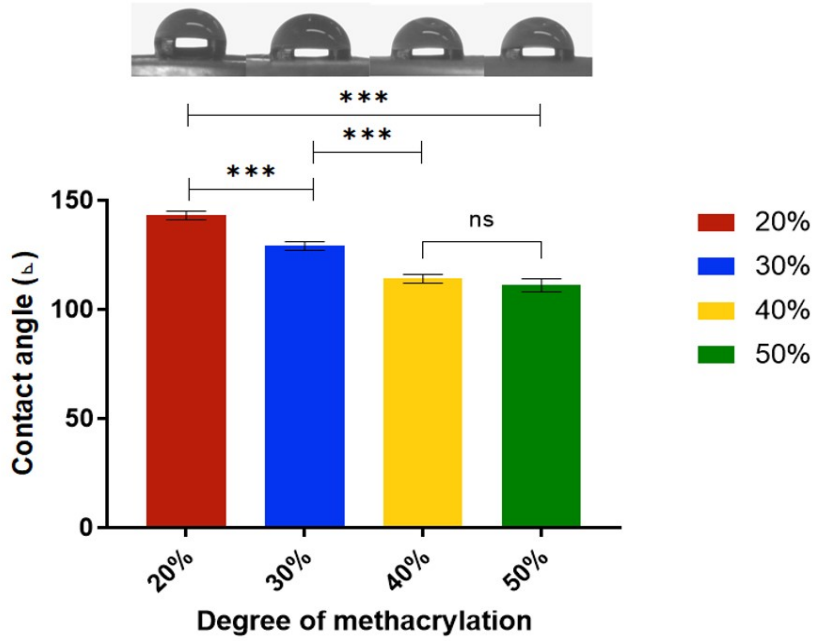


Figure S7. Contact angle measurements in deionized water of PGS-M (20-50%). Samples show means and error bars corresponding to ±SD (N=3, n=3), analysed by one-way ANOVA, Tukey's post-hoc pairwise comparison. P≤0.05 was considered significant.

**SI-8 hDFs resasurin reduction assay**

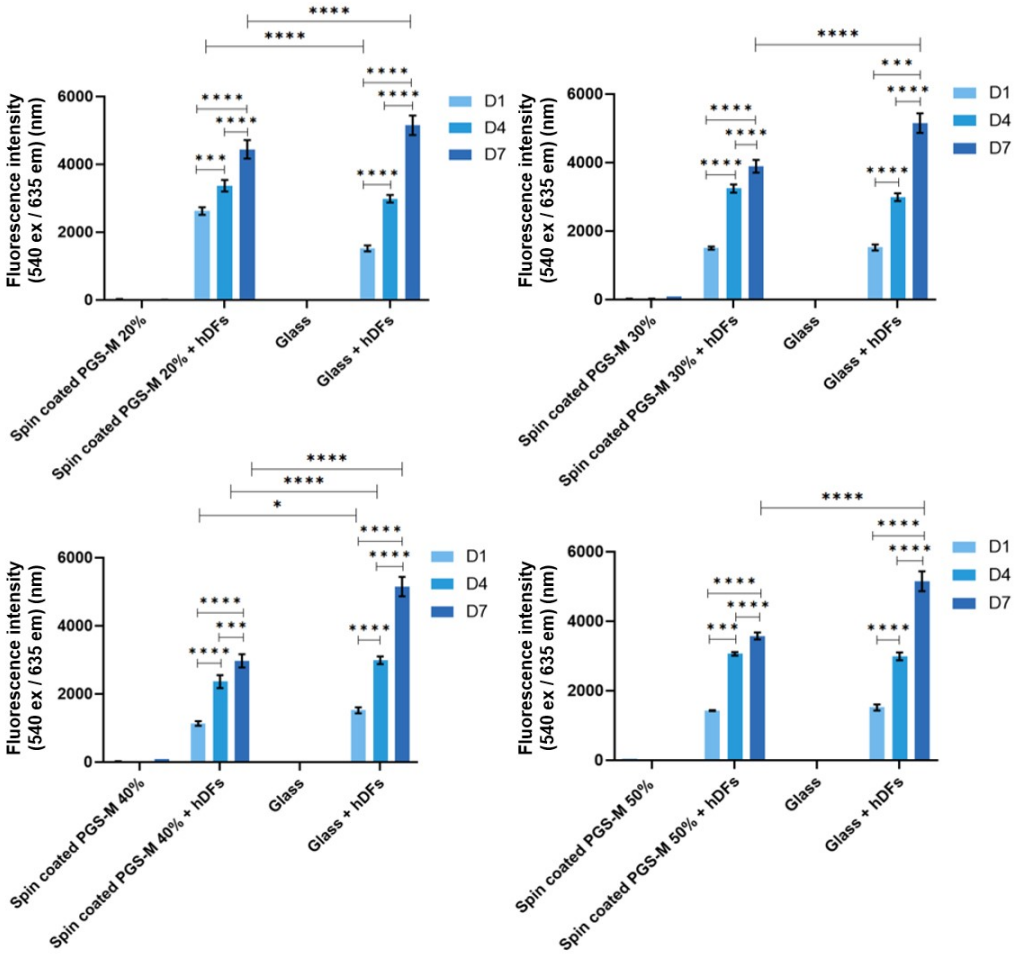


Figure S8. Resazurin reduction assay of hDFs culture on spin coated PGS-M (20 - 50 % DM). Positive controls were hDFs culture on uncoated borosilicate glass. Negative controls were PGS-M spin coated substrates (20 - 50 % DM) and coated borosilicate glass without cells. The assay was carried out in days 1,4 and 7 (N=3). Samples show means and error bars corresponding to ±SD (N=3, n=3), analysed by two-way ANOVA, Tukey's post-hoc pairwise comparison. P≤0.05 was considered statistically significant (*).

There is a significant difference between hDFs seeded on 20% DM and hDFs seeded on glass in days 1 and 7 (P≤0.0001). For hDFs seeded on 30% and hDFs seeded on glass, there is a difference on day 7 (P≤0.0001). hDFs seeded on 40% DM and hDFs seeded on glass were significantly different at all timepoints (P≤0.05, P≤0.0001 and P≤0.0001, respectively) and between hDFs seeded on 50% DM and hDFs seeded on glass in day 7 (P≤0.0001).

**SI-9 hDFs lactate dehydrogenase (LDH) release assay**

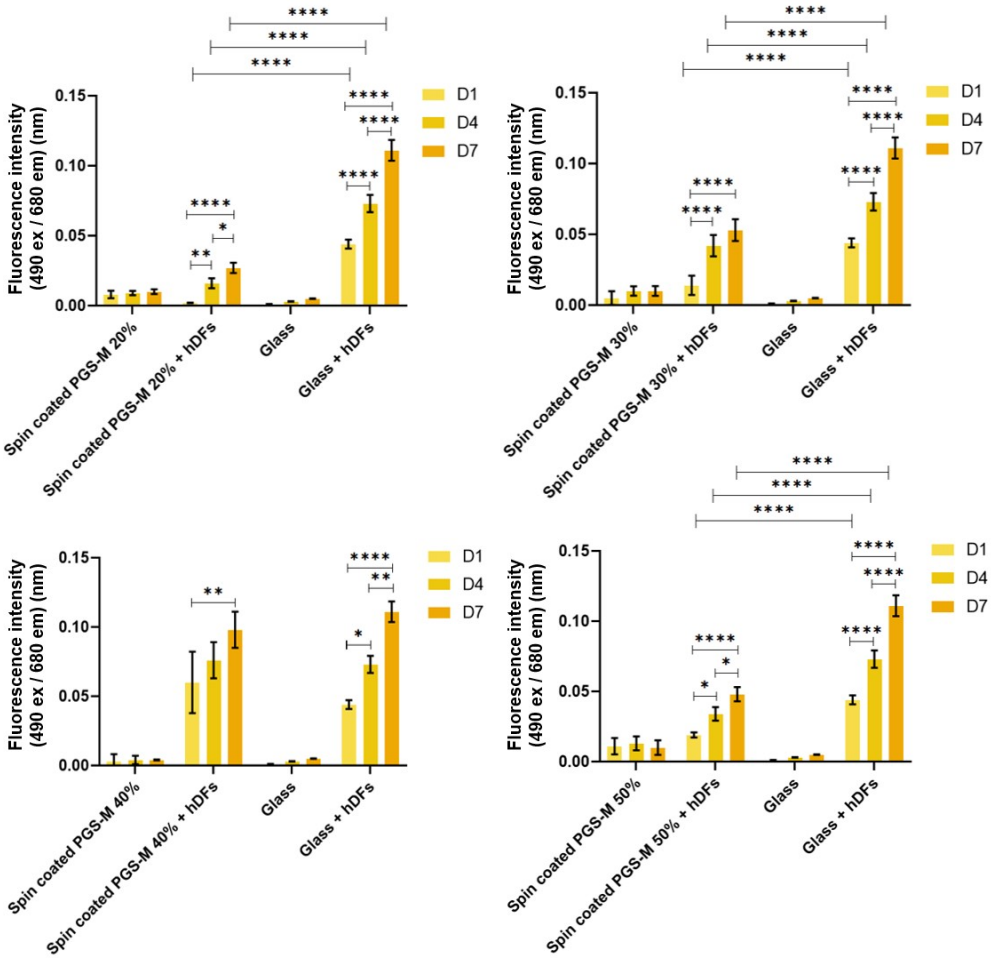


Figure S9. LDH release assay of hDFs culture on spin coated PGS-M (20 - 50 % DM). Positive controls were hDFs cultured on uncoated borosilicate glass. Negative controls were PGS-M spin coated substrates (20 - 50 % DM) and coated borosilicate glass without cells. The assay was carried out in days 1,4 and 7. Samples show means and error bars corresponding to ±SD (N=3, n=3), analysed by two-way ANOVA, Tukey's post-hoc pairwise comparison. P≤0.05 was considered statistically significant (*).

There is a significant difference between hDFs seeded on PGS-M 20, 30, and 50% DM, and hDFs seeded on glass in all time points (P≤0.0001 for all of them). On the other hand, there is no significant difference between LDH for hDFs seeded on 40% DM and glass. Therefore, we can infer that there is no significant cytotoxicity proceeding from spin coated PGS-M substrates for hDFs as it is lower compared with control

**SI-10 pLFs resasurin reduction assay**

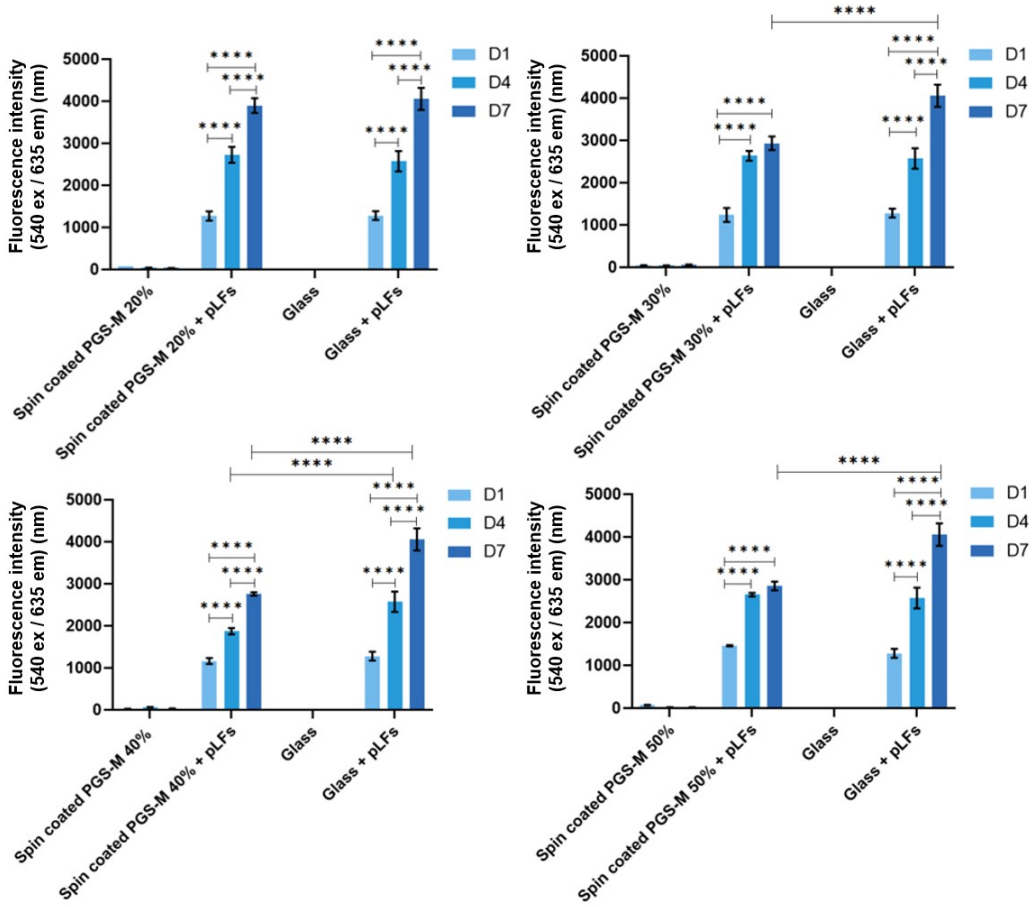


Figure S10. Resazurin reduction assay of pLFs cultured on spin coated PGS-M (20 - 50 % DM). Positive controls were pLFs cultured on uncoated borosilicate glass. Negative controls were PGS-M spin coated substrates (20 - 50 % DM) and coated borosilicate glass without cells. The assay was carried out in days 1,4 and 7. Samples show means and error bars corresponding to ±SD (N=3, n=3), analysed by two-way ANOVA, Tukey's post-hoc pairwise comparison. P≤0.05 was considered statistically significant (*).

There is no significant difference between pLFs seeded on 20% DM and pLFs seeded on glass at all time points. In contrast, there is a significant difference between pLFs seeded on 30% DM and pLFs seeded on glass in day 7 (P≤0.0001), between pLFs seeded on 40% DM and pLFs seeded on glass in days 4 and 7 (P≤0.0001 in both cases), and between pLFs seeded on 50% DM and pLFs seeded on glass in day 7 (P≤0.0001).

**SI-11 pLFs lactate dehydrogenase (LDH) release assay**

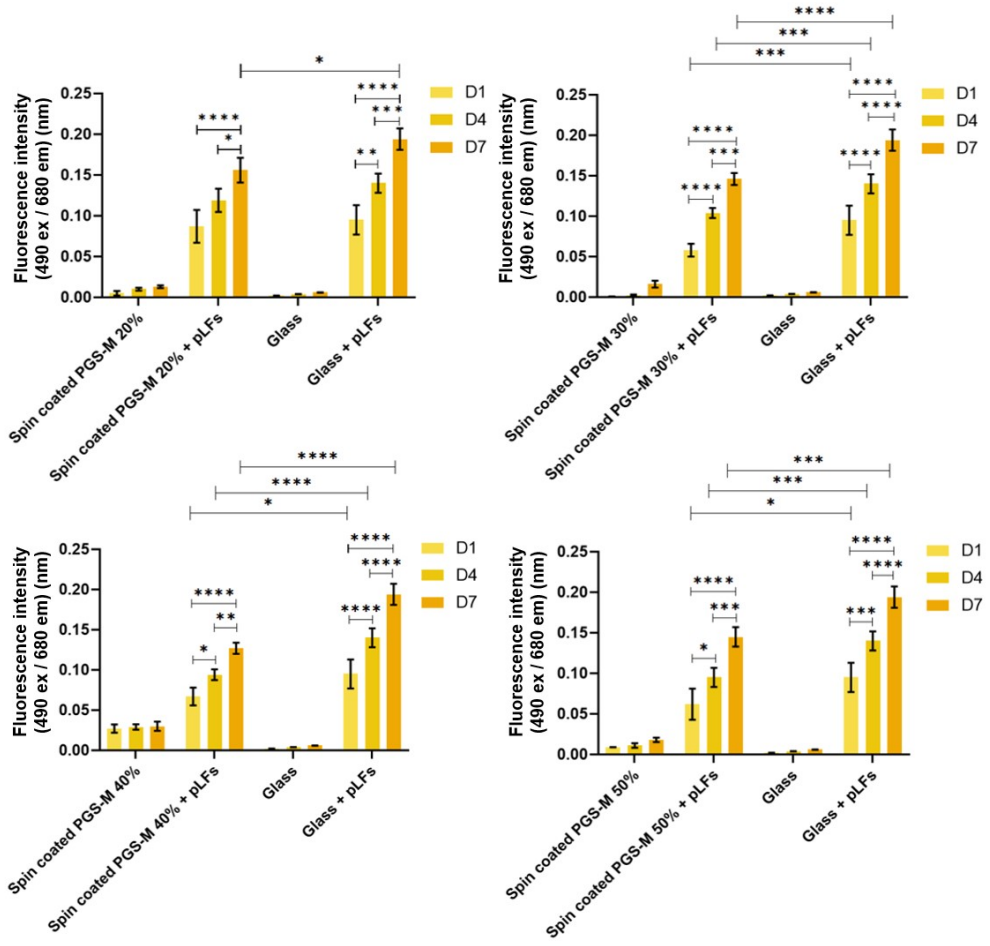


Figure S11. LDH release assay of pLFs culture on spin coated PGS-M (20 - 50 % DM). Positive controls were pLFs culture on uncoated borosilicate glass. Negative controls were PGS-M spin coated substrates (20 - 50 % DM) and coated borosilicate glass without cells. The assay was carried out in days 1,4 and 7(N=3). Samples show means and error bars corresponding to ±SD (N=3, n=3), analysed by two-way ANOVA, Tukey's post-hoc pairwise comparison. P≤0.05 was considered statistically significant (*).

There is a significant difference between pLFs seeded on PGS-M 20% and pLFs seeded on glass in day 7 (P≤0.05). For PGS-M 30% the difference increases from day 1, 4 and 7 (P≤0.001, P≤0.001 and P≤0.0001, respectively). pLFs seeded on PGS-M 40% show significant difference on days 1, 4 and 7 (P≤0.05, P≤0.0001 and P≤0.0001, respectively). Lastly, pLFs seeded on PGS-M 50% the results on days 1,4 and 7 were also significantly different (P≤0.05, P≤0.001 and P≤0.001, respectively).