

**Supplementary file**

**$\alpha$ -Terpineol loaded, electron beam crosslinked Polyvinyl alcohol/tapioca starch hydrogel sheets; fabrication, characterization and evaluation of wound healing potential on a full thickness acid burn wound**

*Maria Khalid\*<sup>1</sup>, Fatima Jameel\*<sup>2</sup>, Tooba Jabri<sup>1</sup>, Abdul Jabbar<sup>1</sup>, Asmat Salim<sup>2</sup>, Irfan Khan<sup>2, 3</sup>, Muhammad Raza Shah<sup>1</sup>*

*<sup>1</sup>HEJ Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Karachi, 75270, Pakistan.*

*<sup>2</sup>Dr. Panjwani Center for Molecular Medicine and Drug Research, International Center for Chemical and Biological Sciences, University of Karachi, Karachi, 75270, Pakistan.*

*<sup>3</sup>Center for Regenerative Medicine and Stem Cell Research, The Aga Khan University, Stadium Road, P. O Box 3500, Karachi 74800, Pakistan*

## **Table of contents**

Table S1: Swelling ratio of PVA tapioca sheet hydrogel as a function of time

Table S2: Moisture retention of PVA tapioca sheet hydrogel as a function of time

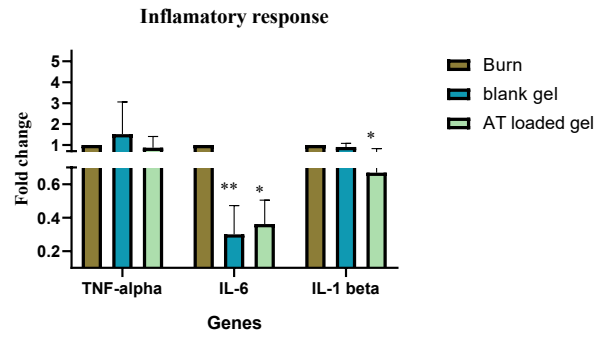
Fig S1: Gene expression profile of inflammatory genes

**Table S1: Swelling ratio of PVA Tapioca sheet hydrogel as a function of time**

Hours	Weight 1 (g)	Swelling 1 %	Weight 2 (g)	Swelling 2 %	Weight 3 (g)	Swelling 3 %	Mean swelling $\pm$ SD (%)
0.5	0.3641	65.5	0.4301	95.5	0.3945	79.3	80.1 $\pm$ 15.8
1	0.4609	109.5	0.5532	121.3	0.5102	131.9	120.9 $\pm$ 11.3
2	0.5566	153	0.6737	169.5	0.6358	189	170.5 $\pm$ 18.6
3	0.7007	218.5	0.8267	230.7	0.7566	243.9	230.7 $\pm$ 13.4
4	0.8741	297.3	1.0502	320.1	0.9761	343.7	320.3 $\pm$ 22.6
5	1.0877	394.4	1.2772	410.9	1.1605	427.5	410.9 $\pm$ 16.5
6	1.2423	464.7	1.4417	476.7	1.2954	488.7	476.7 $\pm$ 12
9	1.4918	578.1	1.745	598	1.5796	618.5	598.3 $\pm$ 20.1
12	1.6172	635.1	1.9183	667.3	1.7520	696.4	666.3 $\pm$ 26.2
24	1.9274	776.1	2.2487	799.5	2.0108	814.0	796.87 $\pm$ 15.2
48	1.9967	807.6	2.3255	830.2	2.0899	849.5	829.1 $\pm$ 20.8

**Table S2: Moisture retention of PVA Tapioca sheet hydrogel as a function of time**Disc 1  $W_w=2.3$  gDisc 2  $W_w=2.4$  gDisc 3  $W_w=2.2$  g

hours	Disc 1 (g / %)	Disc 2 (g / %)	Disc 3 (g / %)	Mean moisture retention $\pm$ SD (%)
<b>0.5</b>	2.1916/ 93.4	2.3215/ 95.8	2.0825/ 94.6	94.6 $\pm$ 1.2
<b>1</b>	2.0746 / 90.2	2.2176/ 92.4	2.0086/ 91.3	91.3 $\pm$ 1.1
<b>2</b>	2.0102/ 87.4	2.172/ 90.5	1.8546 / 84.3	87.4 $\pm$ 3.1
<b>3</b>	1.9159/ 83.3	2.0472/ 85.3	1.7886/ 81.3	83.3 $\pm$ 2.5
<b>4</b>	1.8400/ 80.0	1.9584/ 81.6	1.7248/ 78.4	80.0 $\pm$ 1.6
<b>5</b>	1.7779/ 77.4	1.8936/ 78.9	1.6654/ 75.6	77.3 $\pm$ 1.6
<b>6</b>	1,6560/ 72.0	1.8024/ 75.1	1.6170/ 73.5	73.5 $\pm$ 1.5



**Fig. S1. Gene expression profile of inflammatory genes analysis:** Bar graphs representing quantitative gene expression of TNF-alpha, IL-6, and IL-1 beta in all experimental groups. . IBM SPSS 21 software was used for One-way ANOVA and Bonferroni post-hoc test;  $p$ -value  $\leq 0.05$  was considered statistically significant; (\*\*\*) =  $p \leq 0.001$ , \*\* =  $p \leq 0.01$  and \* =  $p \leq 0.05$ ).