# Contents – Supplemental Figures

# Supplemental Figures and Tables

## Figure S1



**Figure S1.** Mode pore size of the GMP/PLGA/CPC composites determined by microCT after being leached in PBS at 37°C for 3 days, 4 wks, and 8 wks. GMPs and PLGA MPs were introduced in three different weight fractions (0, 10, and 20%). Within the Day 3 series, # denotes significance with respect to the CPC control. In the Week 4 series, * denotes significance with respect to the CPC control. In the Weeks 8 series, ^ denotes significance with respect to the control (n=3, $p < 0.05$).
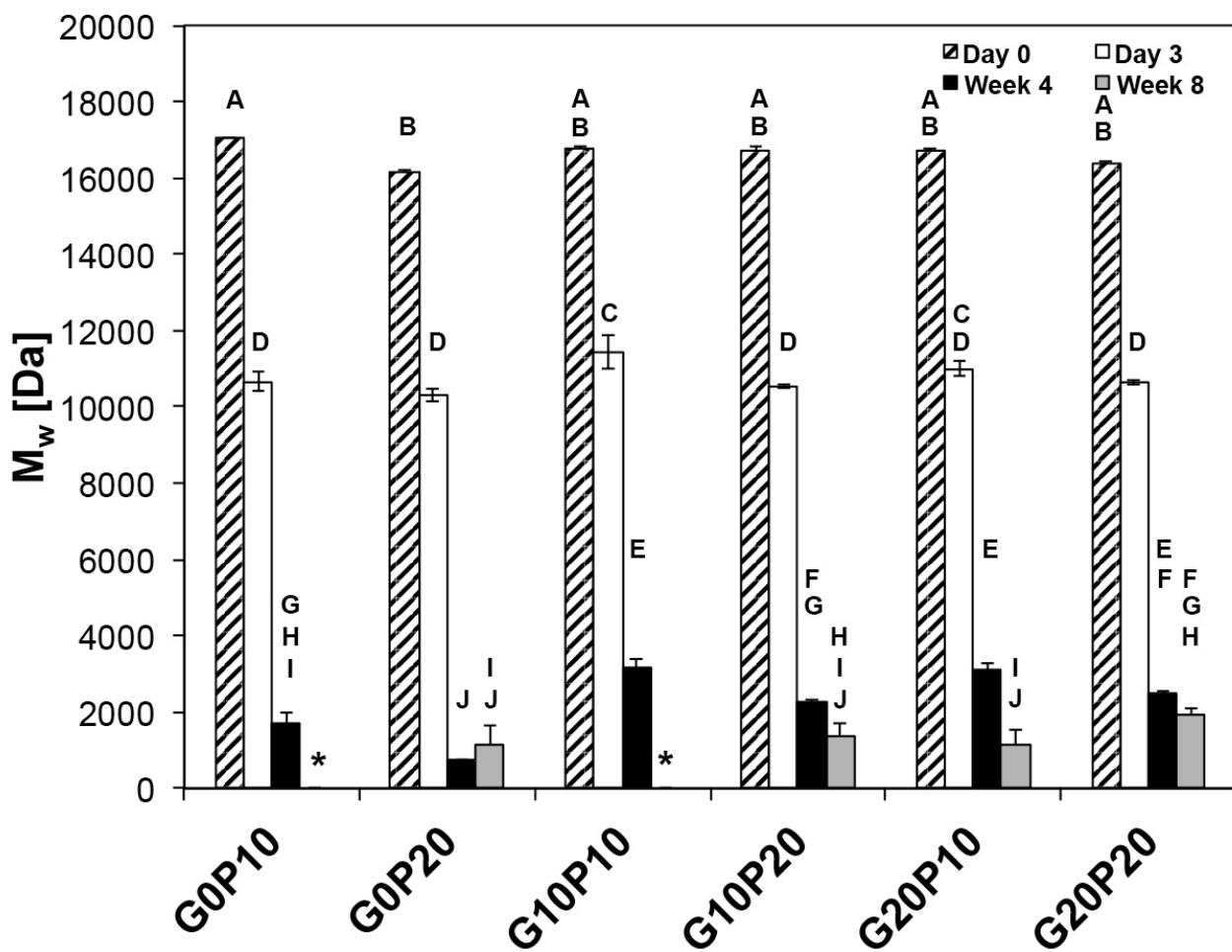
**Figure S2.** The molecular weight ($M_w$) of the PLGA polymer inside CPC scaffolds evaluated by advanced polymer chromatography (APC) after fabrication (day 0) and after being leached in PBS at 37ºC for 3 days, 4 wks, and 8 wks. GMPs and PLGA MPs were introduced in three different weight fractions (0, 10, and 20%). Those that do not share the same letter are statistically significantly different ($p < 0.05$). At 8 wks, G0P10 and G10P10 (marked with an *) could not be quantified due to chromatogram extending beyond that of the lowest standard (266 Da).

*Figure S3*
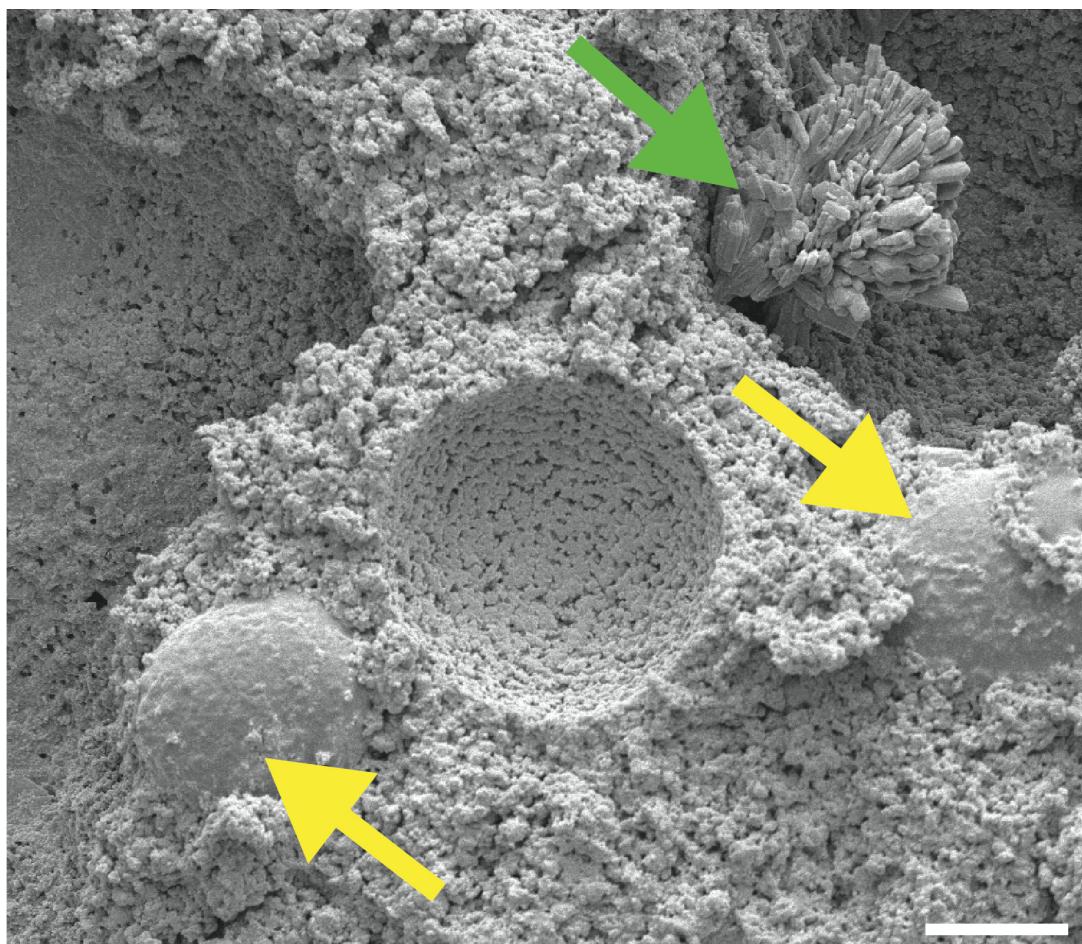


**Figure S3.** Representative scanning electron microscopy (SEM) images showing the internal morphology of composites upon fabrication (Day 0). The smooth spherical particles annotated by a yellow arrow represent PLGA MPs, while the jagged irregular particles marked with a green arrow represent GMPs. The white scale bar in the image represents 50 μm.
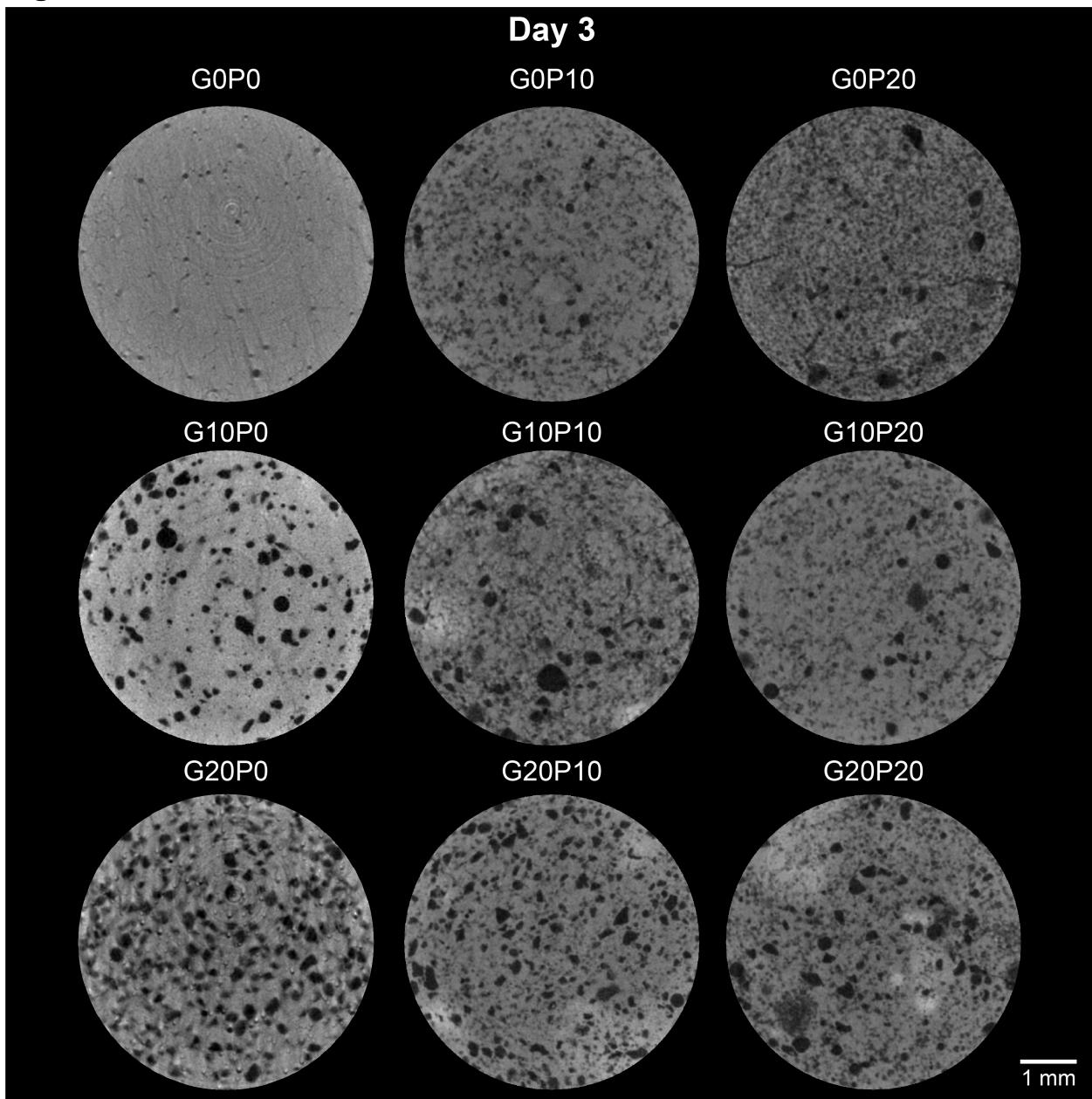
*Figure S4 A*

*Figure S4 B*
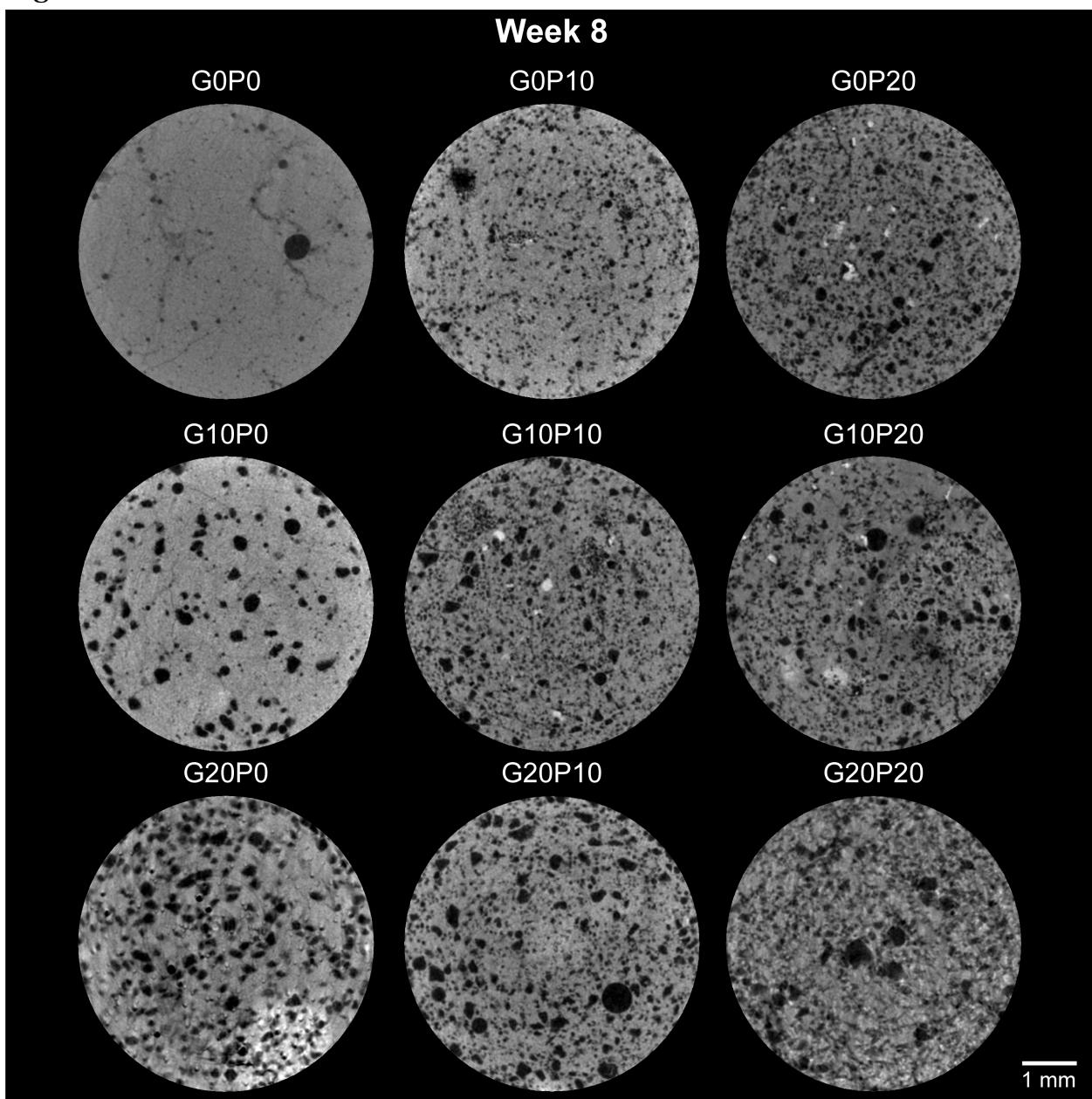


**Figure S4.** Representative μCT cross sections of GMP/PLGA/CPC composites after being leached for 3 days (A) and 8 weeks (B). Scale bar represents 1 mm.

*Figure S5 A*
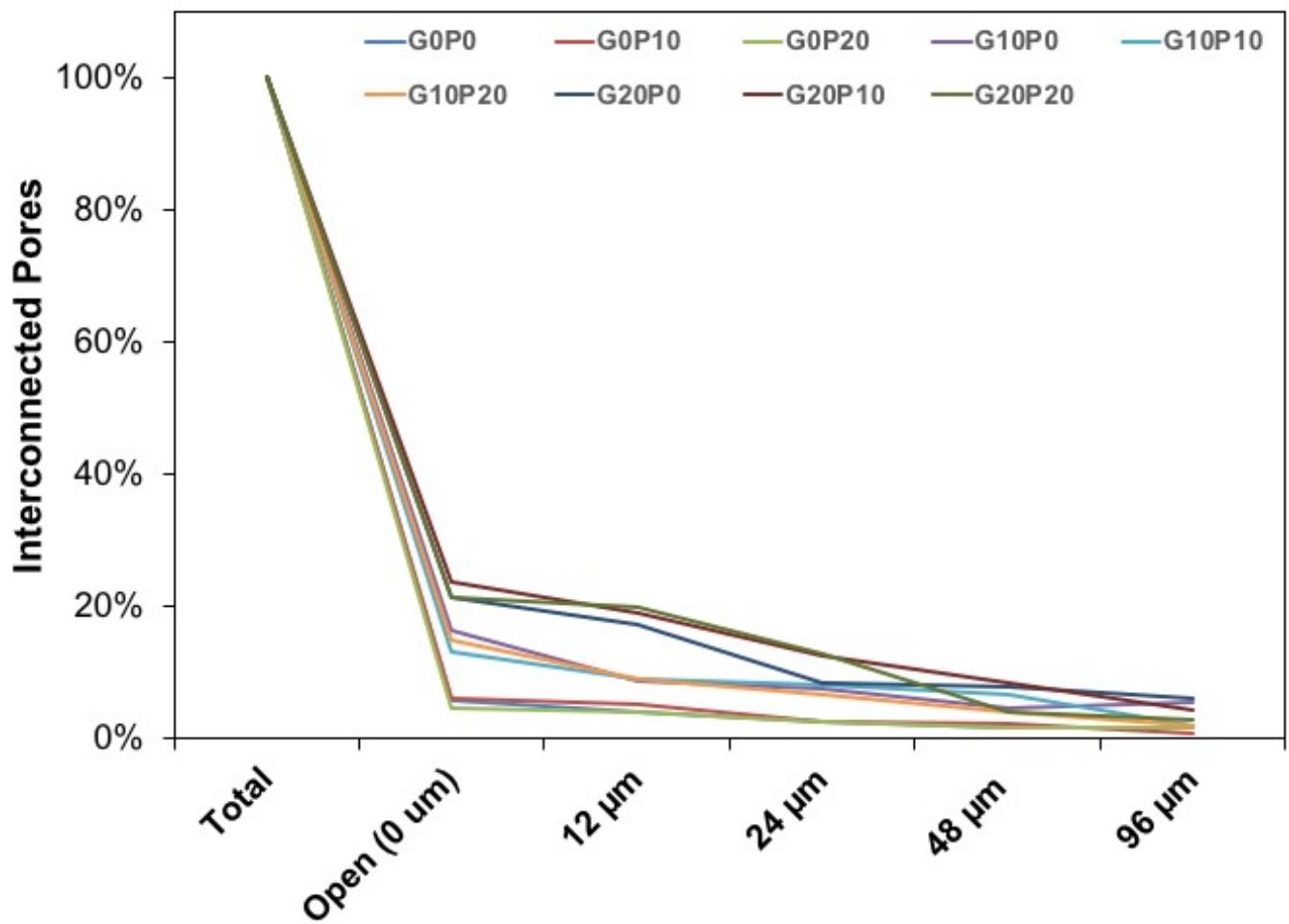
*Figure S5 B*
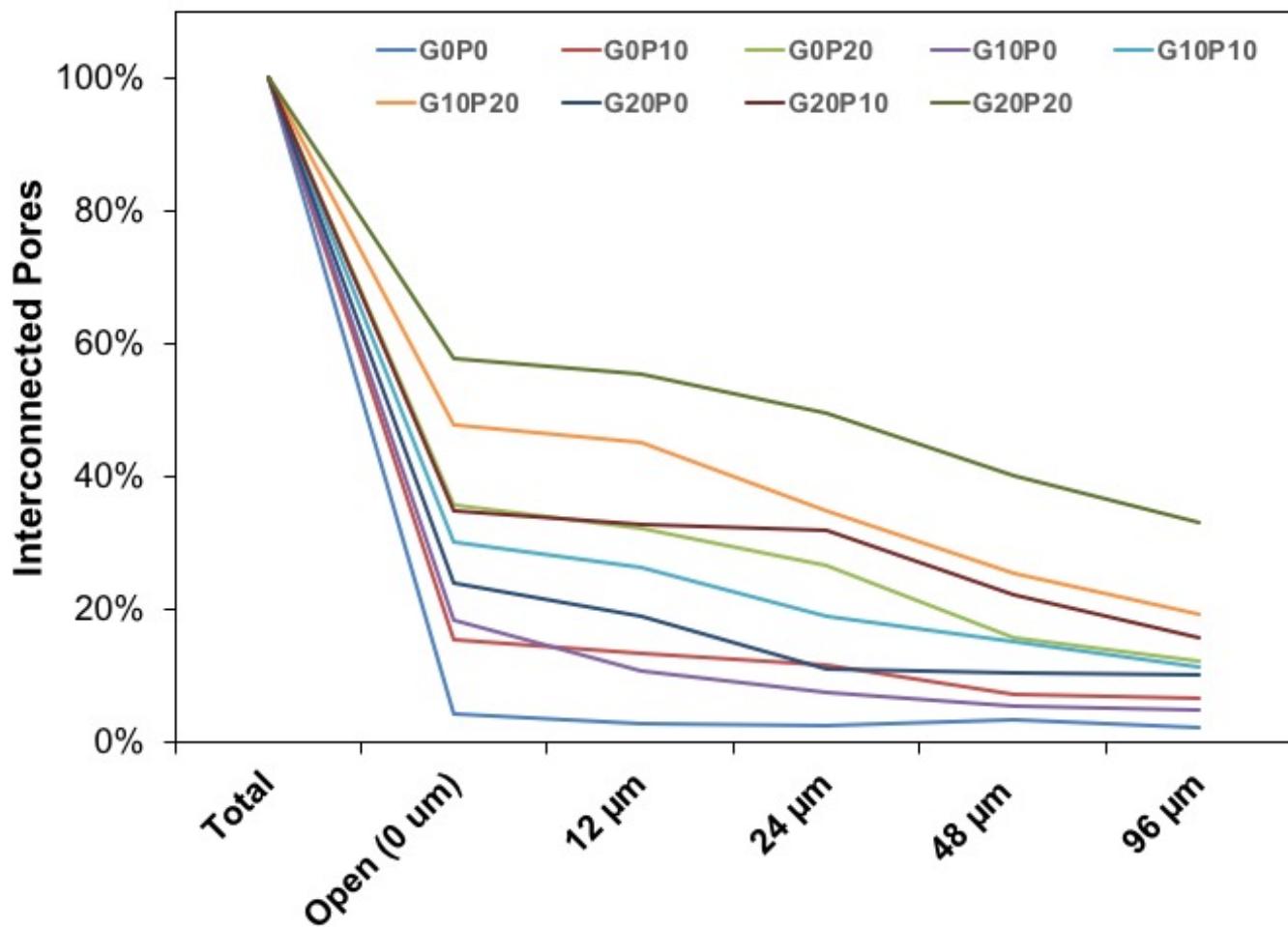


**Figure S5.** Representative pore interconnectivity of the GMP/PLGA/CPC composites after being leached for 3 days (A) and 8 wks (B). In both graphs, the percentage of porosity available to allow the penetration of an object of a given size is presented.

*(Table S1) Mass Remaining Analysis (ANOVA)*

## Fit Group
## Oneway Analysis of Mass Left By Group
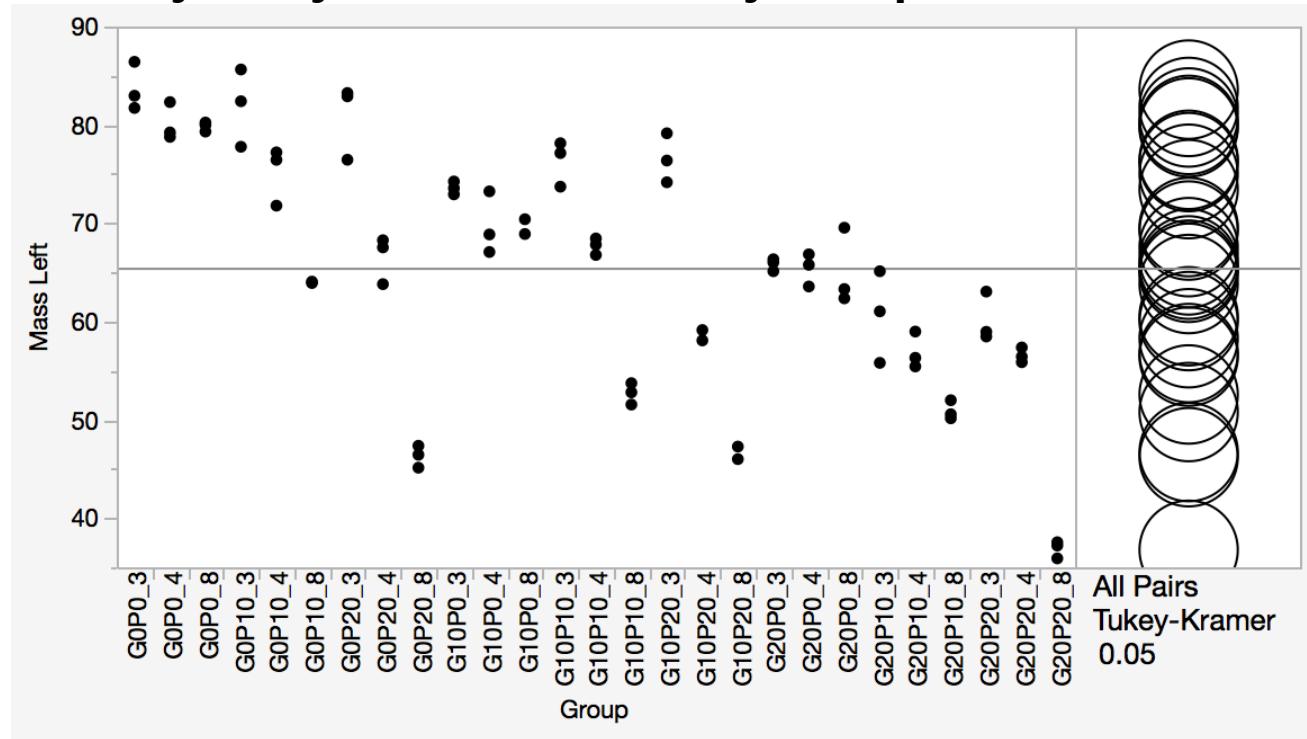


## Means Comparisons
## Comparisons for all pairs using Tukey-Kramer HSD
## Confidence Quantile

| q* | Alpha |
|---|---|
| 3.89742 | 0.05 |

## Connecting Letters Report

| Level | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G0P0_3 | A | | | | | | | | | | | | | | | | 83.696667 |
| G0P10_3 | A | B | | | | | | | | | | | | | | | 81.933333 |
| G0P20_3 | A | B | | | | | | | | | | | | | | | 80.863333 |
| G0P0_4 | A | B | C | | | | | | | | | | | | | | 80.106690 |
| G0P0_8 | A | B | C | | | | | | | | | | | | | | 79.846965 |
| G10P20_3 | | B | C | D | | | | | | | | | | | | | 76.556667 |
| G10P10_3 | | B | C | D | E | | | | | | | | | | | | 76.323333 |
| G0P10_4 | | B | C | D | E | | | | | | | | | | | | 75.140923 |
| G10P0_3 | | | C | D | E | F | | | | | | | | | | | 73.573333 |
| G10P0_4 | | | | D | E | F | G | | | | | | | | | | 69.718951 |
| G10P0_8 | | | | | E | F | G | | | | | | | | | | 69.361799 |
| G10P10_4 | | | | | | F | G | H | | | | | | | | | 67.674635 |
| G0P20_4 | | | | | | F | G | H | I | | | | | | | | 66.531196 |
| G20P0_3 | | | | | | | G | H | I | | | | | | | | 65.816667 |
| G20P0_4 | | | | | | | G | H | I | J | | | | | | | 65.383789 |
| G20P0_8 | | | | | | | G | H | I | J | | | | | | | 65.062973 |
| G0P10_8 | | | | | | | G | H | I | J | K | | | | | | 63.923890 |
| G20P10_3 | | | | | | | | H | I | J | K | L | | | | | 60.643333 |
| G20P20_3 | | | | | | | | | I | J | K | L | | | | | 60.153333 |
| G10P20_4 | | | | | | | | | | J | K | L | M | | | | 58.410180 |
| G20P10_4 | | | | | | | | | | | K | L | M | N | | | 56.901966 |
| G20P20_4 | | | | | | | | | | | | L | M | N | | | 56.543057 |
| G10P10_8 | | | | | | | | | | | | | M | N | O | | 52.690039 |
| G20P10_8 | | | | | | | | | | | | | | N | O | | 50.901707 |
| G10P20_8 | | | | | | | | | | | | | | | O | | 46.831728 |
| G0P20_8 | | | | | | | | | | | | | | | O | | 46.309273 |
| G20P20_8 | | | | | | | | | | | | | | | | P | 36.886561 |

Levels not connected by same letter are significantly different.

## Oneway Analysis of Porosity By Group
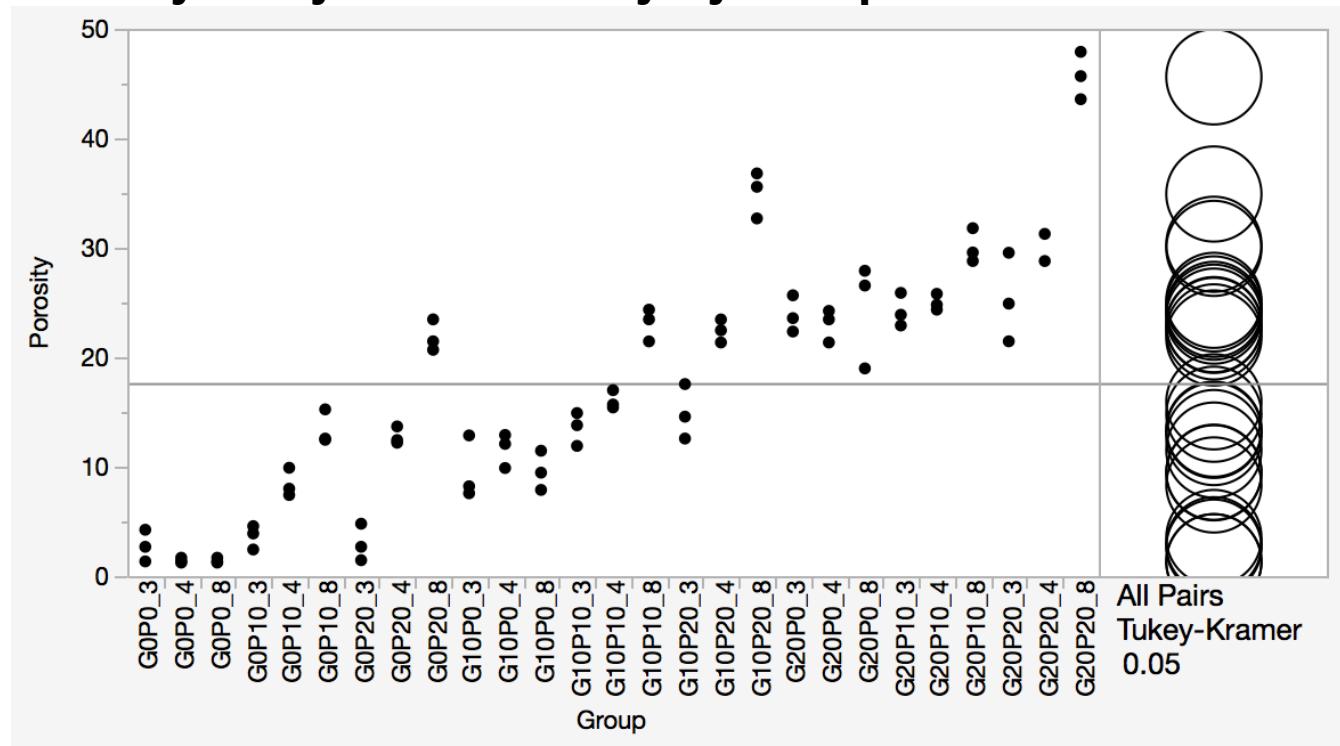


## Means Comparisons
## Comparisons for all pairs using Tukey-Kramer HSD
## Confidence Quantile

| q* | Alpha |
|---|---|
| 3.89742 | 0.05 |

# Connecting Letters Report

| Level | A | B | C | D | E | F | G | H | I | J | K | L | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G20P20_8 | A | | | | | | | | | | | | 45.713000 |
| G10P20_8 | | B | | | | | | | | | | | 35.011333 |
| G20P20_4 | | B | C | | | | | | | | | | 30.419933 |
| G20P10_8 | | B | C | D | | | | | | | | | 30.045567 |
| G20P20_3 | | | C | D | E | | | | | | | | 25.296667 |
| G20P10_4 | | | C | D | E | | | | | | | | 24.973189 |
| G20P0_8 | | | C | D | E | | | | | | | | 24.473000 |
| G20P10_3 | | | | D | E | | | | | | | | 24.216333 |
| G20P0_3 | | | | | E | | | | | | | | 23.855467 |
| G10P10_8 | | | | | E | | | | | | | | 23.081000 |
| G20P0_4 | | | | | E | | | | | | | | 23.009756 |
| G10P20_4 | | | | | E | | | | | | | | 22.416244 |
| G0P20_8 | | | | | E | F | | | | | | | 21.860533 |
| G10P10_4 | | | | | | F | G | | | | | | 16.025233 |
| G10P20_3 | | | | | | | G | H | | | | | 14.893600 |
| G10P10_3 | | | | | | | G | H | I | | | | 13.527867 |
| G0P10_8 | | | | | | | G | H | I | | | | 13.417100 |
| G0P20_4 | | | | | | | G | H | I | | | | 12.764244 |
| G10P0_4 | | | | | | | G | H | I | | | | 11.618156 |
| G10P0_8 | | | | | | | | H | I | J | | | 9.594833 |
| G10P0_3 | | | | | | | | H | I | J | | | 9.543693 |
| G0P10_4 | | | | | | | | | I | J | K | | 8.431644 |
| G0P10_3 | | | | | | | | | | J | K | L | 3.631233 |
| G0P20_3 | | | | | | | | | | | K | L | 2.973200 |
| G0P0_3 | | | | | | | | | | | K | L | 2.753377 |
| G0P0_4 | | | | | | | | | | | | L | 1.420053 |
| G0P0_8 | | | | | | | | | | | | L | 1.420053 |

Levels not connected by same letter are significantly different.

# Oneway Analysis of Mean By Group
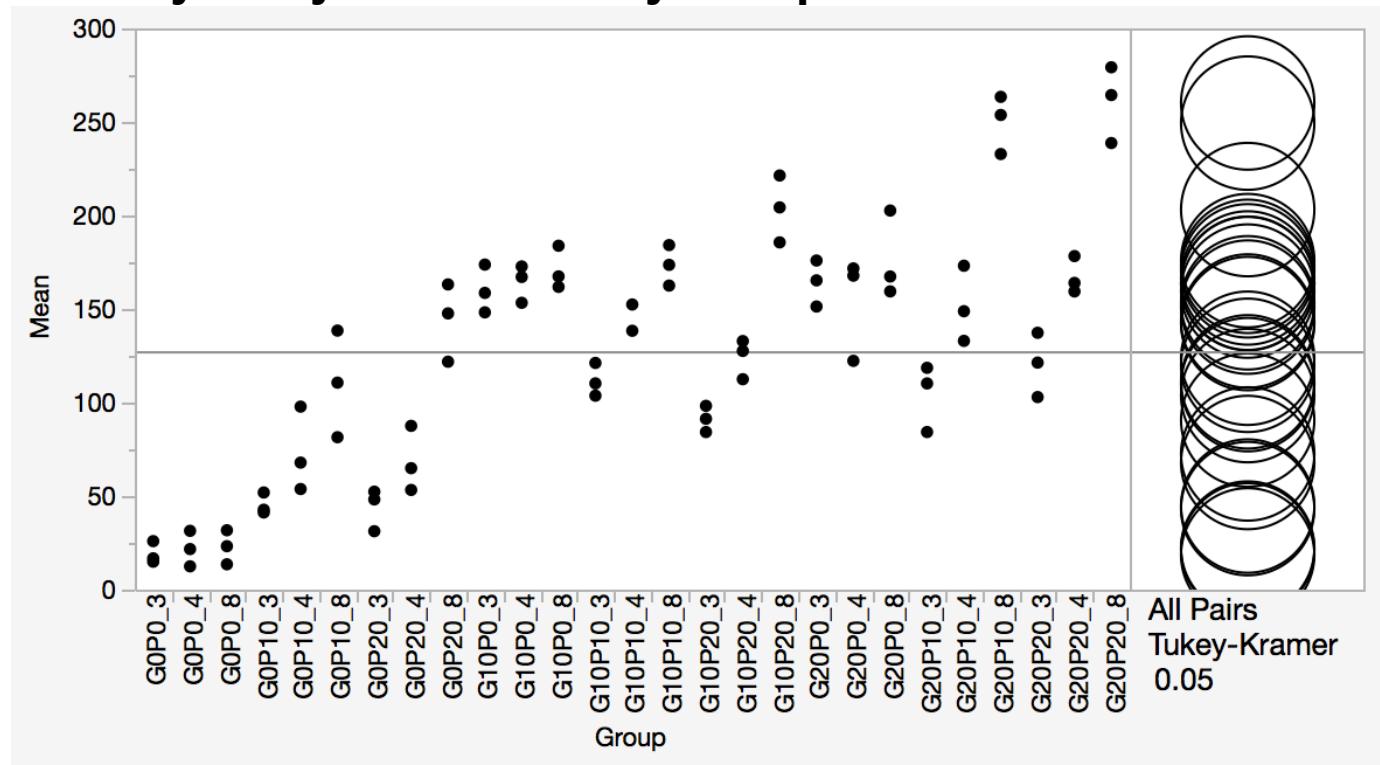


# Means Comparisons
# Comparisons for all pairs using Tukey-Kramer HSD Confidence Quantile

| q* | Alpha |
|---|---|
| 3.89742 | 0.05 |

# Connecting Letters Report

| Level | A | B | C | D | E | F | G | H | I | J | K | L | M | N | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G20P20_8 | A | | | | | | | | | | | | | | 260.76000 |
| G20P10_8 | A | B | | | | | | | | | | | | | 249.98667 |
| G10P20_8 | | B | C | | | | | | | | | | | | 203.76000 |
| G20P0_8 | | | C | D | | | | | | | | | | | 176.46667 |
| G10P10_8 | | | C | D | E | | | | | | | | | | 173.42000 |
| G10P0_8 | | | C | D | E | | | | | | | | | | 171.01667 |
| G20P20_4 | | | C | D | E | F | | | | | | | | | 167.20333 |
| G10P0_4 | | | C | D | E | F | | | | | | | | | 164.39333 |
| G20P0_3 | | | C | D | E | F | | | | | | | | | 164.18000 |
| G10P0_3 | | | C | D | E | F | G | | | | | | | | 160.18333 |
| G20P0_4 | | | C | D | E | F | G | H | | | | | | | 153.93000 |
| G20P10_4 | | | | D | E | F | G | H | | | | | | | 151.63000 |
| G0P20_8 | | | | D | E | F | G | H | | | | | | | 144.19667 |
| G10P10_4 | | | | D | E | F | G | H | | | | | | | 142.83667 |
| G10P20_4 | | | | | E | F | G | H | I | | | | | | 124.29667 |
| G20P20_3 | | | | | | F | G | H | I | J | | | | | 120.51333 |
| G10P10_3 | | | | | | | G | H | I | J | K | | | | 111.68667 |
| G0P10_8 | | | | | | | G | H | I | J | K | | | | 110.18333 |
| G20P10_3 | | | | | | | | H | I | J | K | | | | 104.33333 |
| G10P20_3 | | | | | | | | | I | J | K | L | | | 91.25667 |
| G0P10_4 | | | | | | | | | | J | K | L | M | | 73.15333 |
| G0P20_4 | | | | | | | | | | | K | L | M | N | 68.57000 |
| G0P10_3 | | | | | | | | | | | | L | M | N | 45.28667 |
| G0P20_3 | | | | | | | | | | | | L | M | N | 43.92000 |
| G0P0_8 | | | | | | | | | | | | | M | N | 22.82000 |
| G0P0_4 | | | | | | | | | | | | | | N | 21.84333 |
| G0P0_3 | | | | | | | | | | | | | | N | 19.18333 |

Levels not connected by same letter are significantly different.

## Oneway Analysis of Mode By Group
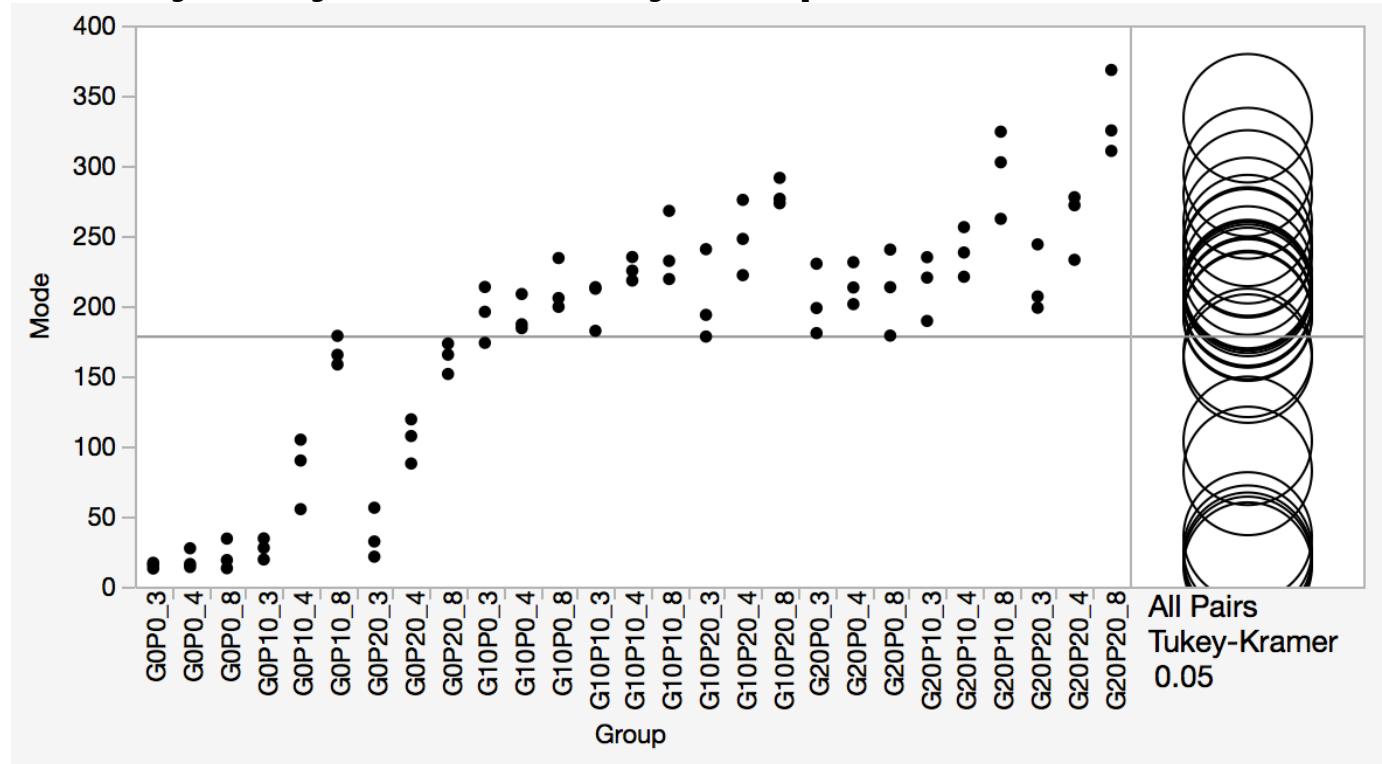


## Means Comparisons
## Comparisons for all pairs using Tukey-Kramer HSD
## Confidence Quantile

| q* | Alpha |
|---|---|
| 3.89742 | 0.05 |

# Connecting Letters Report

| Level | A | B | C | D | E | F | G | H | I | J | Mean |
|-------|---|---|---|---|---|---|---|---|---|---|------|
| G20P20_8 | A | | | | | | | | | | 334.63000 |
| G20P10_8 | A | B | | | | | | | | | 296.26000 |
| G10P20_8 | A | B | C | | | | | | | | 280.31667 |
| G20P20_4 | | B | C | D | | | | | | | 260.75333 |
| G10P20_4 | | B | C | D | E | | | | | | 248.47667 |
| G10P10_8 | | B | C | D | E | | | | | | 239.71333 |
| G20P10_4 | | B | C | D | E | | | | | | 238.38667 |
| G10P10_4 | | | C | D | E | F | | | | | 226.09333 |
| G20P20_3 | | | C | D | E | F | | | | | 216.48333 |
| G20P0_4 | | | | D | E | F | | | | | 215.24667 |
| G20P10_3 | | | | D | E | F | | | | | 214.78333 |
| G10P0_8 | | | | D | E | F | | | | | 213.08667 |
| G20P0_8 | | | | D | E | F | | | | | 210.84333 |
| G10P20_3 | | | | D | E | F | | | | | 204.13000 |
| G20P0_3 | | | | D | E | F | | | | | 203.11000 |
| G10P10_3 | | | | D | E | F | | | | | 202.67667 |
| G10P0_3 | | | | | E | F | | | | | 194.39000 |
| G10P0_4 | | | | | E | F | | | | | 193.24333 |
| G0P10_8 | | | | | | F | G | | | | 167.42000 |
| G0P20_8 | | | | | | F | G | | | | 163.35333 |
| G0P20_4 | | | | | | | G | H | | | 104.75000 |
| G0P10_4 | | | | | | | | H | I | | 83.27000 |
| G0P20_3 | | | | | | | | | I | J | 36.57000 |
| G0P10_3 | | | | | | | | | I | J | 27.11000 |
| G0P0_8 | | | | | | | | | I | J | 22.08000 |
| G0P0_4 | | | | | | | | | I | J | 19.14000 |
| G0P0_3 | | | | | | | | | | J | 15.11000 |

Levels not connected by same letter are significantly different.

*(Table S5) Incubation Media pH Analysis (ANOVA)*

## Oneway Analysis of pH By Group
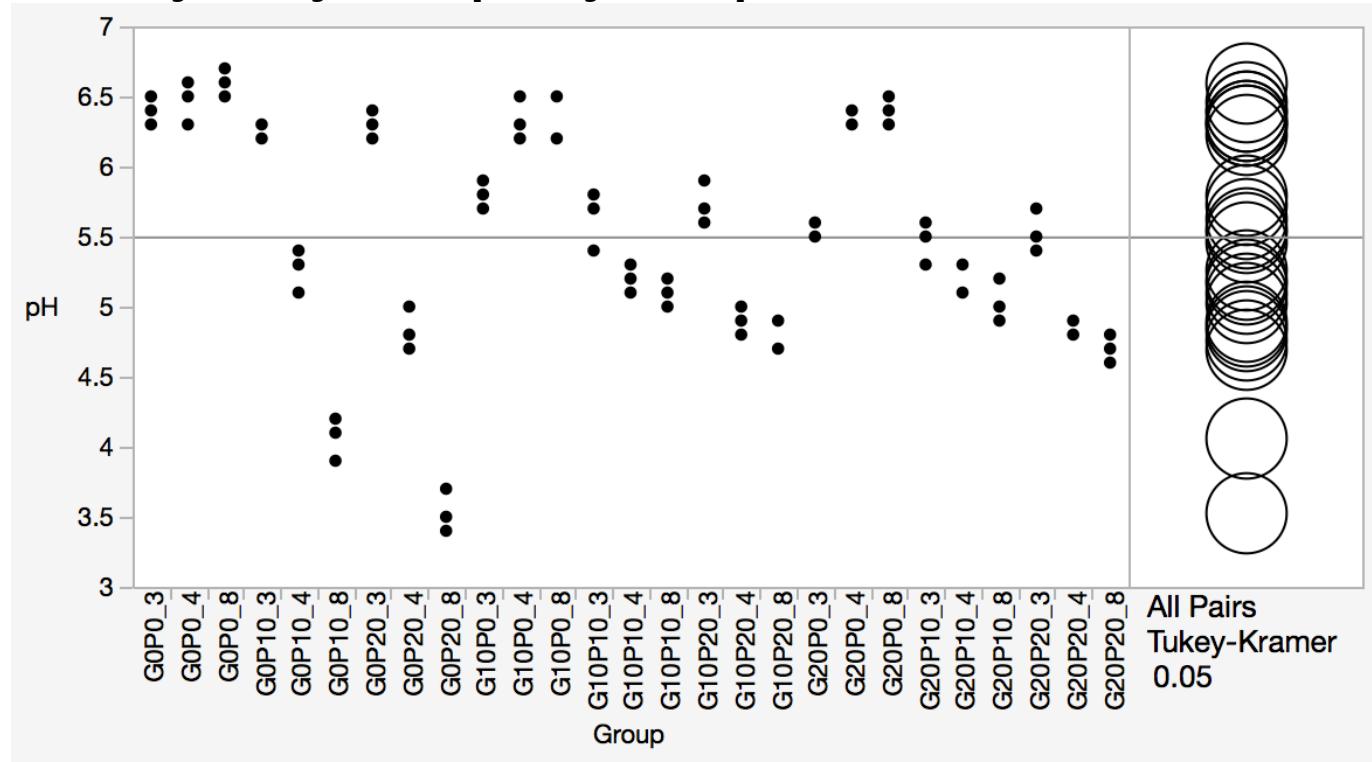


## Means Comparisons
## Comparisons for all pairs using Tukey-Kramer HSD
## Confidence Quantile

| q* | Alpha |
|---|---|
| 3.89742 | 0.05 |

# Connecting Letters Report

| Level | A | B | C | D | E | F | G | H | I | J | K | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G0P0_8 | A | | | | | | | | | | | 6.6000000 |
| G0P0_4 | A | | | | | | | | | | | 6.4666667 |
| G0P0_3 | A | | | | | | | | | | | 6.4000000 |
| G20P0_8 | A | | | | | | | | | | | 6.4000000 |
| G10P0_4 | A | | | | | | | | | | | 6.3333333 |
| G20P0_4 | A | | | | | | | | | | | 6.3333333 |
| G0P20_3 | A | | | | | | | | | | | 6.3000000 |
| G10P0_8 | A | | | | | | | | | | | 6.3000000 |
| G0P10_3 | A | | | | | | | | | | | 6.2333333 |
| G10P0_3 | | B | | | | | | | | | | 5.8000000 |
| G10P20_3 | | B | | | | | | | | | | 5.7333333 |
| G10P10_3 | | B | C | | | | | | | | | 5.6333333 |
| G20P0_3 | | B | C | D | | | | | | | | 5.5666667 |
| G20P20_3 | | B | C | D | | | | | | | | 5.5333333 |
| G20P10_3 | | B | C | D | E | | | | | | | 5.4666667 |
| G0P10_4 | | | C | D | E | F | | | | | | 5.2666667 |
| G10P10_4 | | | | D | E | F | G | | | | | 5.2000000 |
| G20P10_4 | | | | D | E | F | G | H | | | | 5.1666667 |
| G10P10_8 | | | | | E | F | G | H | I | | | 5.1000000 |
| G20P10_8 | | | | | | F | G | H | I | | | 5.0333333 |
| G10P20_4 | | | | | | F | G | H | I | | | 4.9000000 |
| G20P20_4 | | | | | | F | G | H | I | | | 4.8666667 |
| G0P20_4 | | | | | | | G | H | I | | | 4.8333333 |
| G10P20_8 | | | | | | | | H | I | | | 4.7666667 |
| G20P20_8 | | | | | | | | | I | | | 4.7000000 |
| G0P10_8 | | | | | | | | | | J | | 4.0666667 |
| G0P20_8 | | | | | | | | | | | K | 3.5333333 |

Levels not connected by same letter are significantly different.