

Figure 4: This graph represents voltage readings (mV) of each MFC, with and without the presence of an air pump, detected during each morning of the 21-day testing period.

| Days (At Morning) | Control MFC Without Air Pump (mV) | Control MFC With Air Pump (mV) | 5% Coffee Ground Addition MFC Without Air Pump (mV) | 5% Coffee Ground Addition MFC With Air Pump (mV) | 10% Coffee Ground Addition MFC Without Air Pump (mV) | 10% Coffee Ground Addition MFC With Air Pump (mV) |
|-------------------|-----------------------------------|--------------------------------|---|--|--|---|
| 1 | N/A | N/A | N/A | N/A | N/A | N/A |
| 2 | 154 | 133 | 234 | 247.2 | | |
| 3 | 201.9 | 139.3 | 241.7 | 258.2 | 192.6 | 194.4 |
| 4 | 200.1 | 191.7 | 229 | 222 | 200.1 | 212 |
| 5 | 247 | 259 | 298 | 302 | 224 | 222 |
| 6 | 300.1 | 317.2 | 327 | 334.7 | 261.3 | 267.9 |
| 7 | 328 | 328.4 | 372.4 | 379.7 | 292.2 | 297.4 |
| 8 | 379 | 396 | 429 | 435 | 310 | 314 |
| 9 | 387.6 | 396.7 | 443 | 449.1 | 398.3 | 407.2 |
| 10 | 362.2 | 322.1 | 454.3 | 463.7 | 401.8 | 402.1 |
| 11 | 382.4 | 399.4 | 471.9 | 479.7 | 411.9 | 427.2 |
| 12 | 442.7 | 447.4 | 489.2 | 493.2 | 420.9 | 452.4 |
| 13 | 481.4 | 483.6 | 497.6 | 501.7 | 429.3 | 437.4 |
| 14 | 472.3 | 488.6 | 503.8 | 512.7 | 438.2 | 448.3 |
| 15 | 477.3 | 494.4 | 517.4 | 524.3 | 439.8 | 442.4 |
| 16 | 479.7 | 502.4 | 534.1 | 547.1 | 435.3 | 438.4 |
| 17 | 502.3 | 510.8 | 549.7 | 559.4 | 426.4 | 429.6 |
| 18 | 517.3 | 533.4 | 566.7 | 572.8 | 420.2 | 421.7 |
| 19 | 533.9 | 542.7 | 582.0 | 589.8 | 409.3 | 414.3 |
| 20 | 521.9 | 513.9 | 602.3 | 614.7 | 402.4 | 407.3 |
| 21 | 501.9 | 505.2 | 621.8 | 636.6 | 392.7 | 395.3 |

Table 1: Voltage readings (mV) of each MFC, with and without the presence of an air pump, detected during each morning of the 21-day testing period.

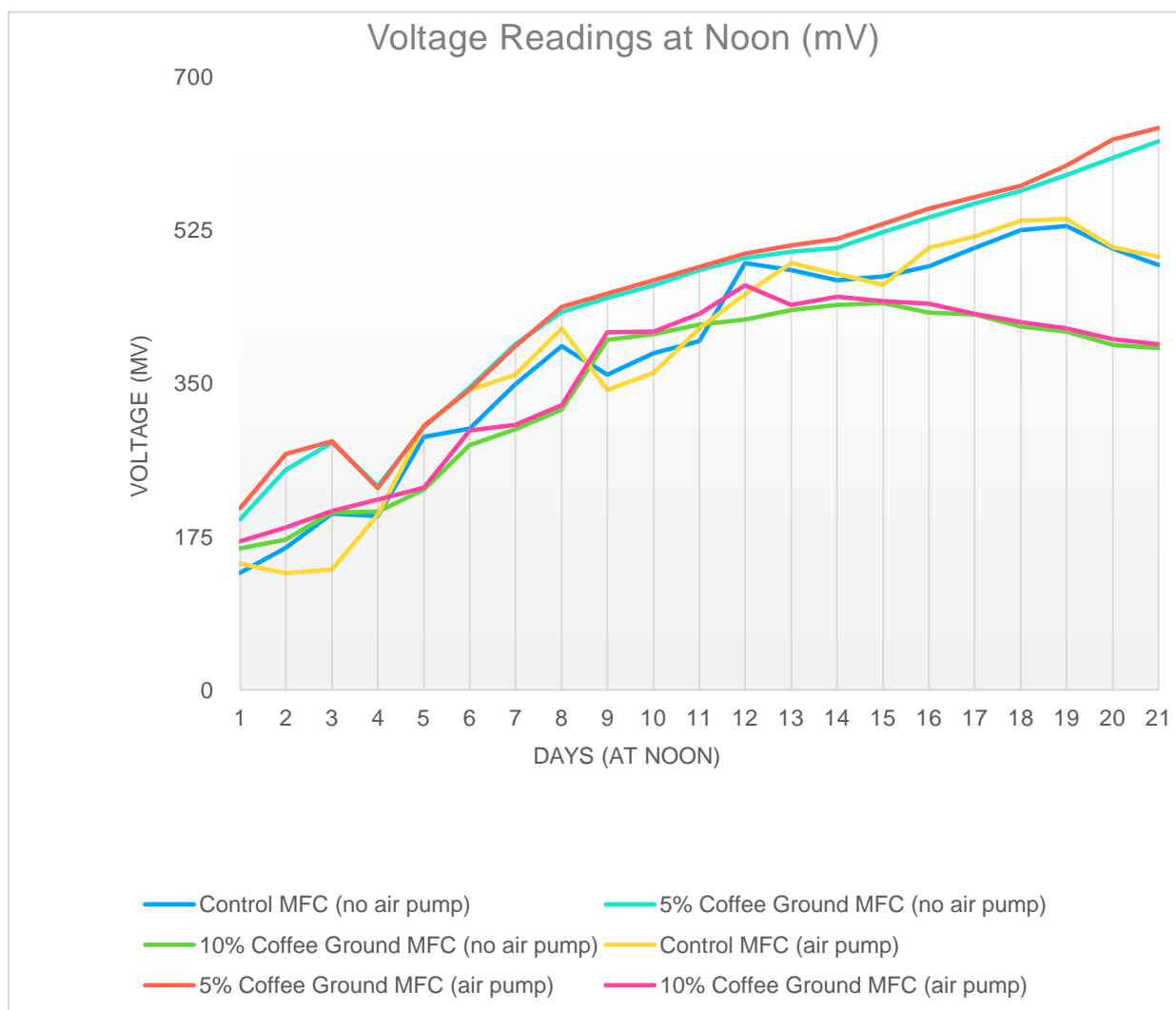


Figure 5: Voltage readings (mV) of each MFC, with and without the presence of an air pump, detected during each afternoon of the 21-day testing period

| Days (At Noon) | Control MFC Without Air Pump (mV) | Control MFC With Air Pump (mV) | 5% Coffee Ground Addition MFC Without Air Pump (mV) | 5% Coffee Ground Addition MFC With Air Pump (mV) | 10% Coffee Ground Addition MFC Without Air Pump (mV) | 10% Coffee Ground Addition MFC With Air Pump (mV) |
|----------------|-----------------------------------|--------------------------------|---|--|--|---|
| 1 | 133.6 | 144.3 | 152.7 | 207.3 | 10 | 169.5 |
| 2 | 162 | 133.2 | 251 | 269.4 | 171.2 | 185.3 |
| 3 | 201.2 | 137.4 | 282 | 284 | 202.4 | 204.1 |
| 4 | 198.3 | 199.7 | 232.4 | 230.1 | 203.4 | 217 |
| 5 | 289 | 302 | 299.7 | 301.2 | 229 | 231 |
| 6 | 298 | 342 | 345 | 343 | 279 | 296 |
| 7 | 349 | 359.7 | 394.2 | 392.4 | 297.2 | 302.7 |
| 8 | 392.3 | 412.3 | 431.4 | 436.9 | 319.7 | 324.6 |
| 9 | 359.7 | 342.3 | 447.2 | 452.3 | 399.4 | 408.1 |
| 10 | 384.1 | 361.7 | 461.7 | 467.2 | 405.7 | 409.1 |
| 11 | 397.9 | 412.6 | 479 | 482.3 | 416.5 | 429.3 |
| 12 | 487.2 | 451.3 | 492.7 | 497.9 | 422.4 | 461.7 |
| 13 | 479.2 | 486.7 | 500.3 | 507.4 | 433.1 | 439.2 |
| 14 | 467.1 | 474.4 | 504.2 | 514.3 | 439.2 | 448.7 |
| 15 | 472.1 | 462.3 | 522.7 | 531.9 | 441.3 | 443.6 |
| 16 | 483 | 504.6 | 539.4 | 549.3 | 430.7 | 440.7 |
| 17 | 504.4 | 517.6 | 554.8 | 562.5 | 428.3 | 429.4 |
| 18 | 524.8 | 535.7 | 569.4 | 575.5 | 414.3 | 419.9 |
| 19 | 529.3 | 537.3 | 587.3 | 598.3 | 409.1 | 412.6 |
| 20 | 503.7 | 504.7 | 607.4 | 627.9 | 393.8 | 400.1 |
| 21 | 484.7 | 494.1 | 626.0 | 641.2 | 390.1 | 394.6 |

Table 2: Voltage readings (mV) of each MFC, with and without the presence of an air pump, detected during each afternoon of the 21-day testing period

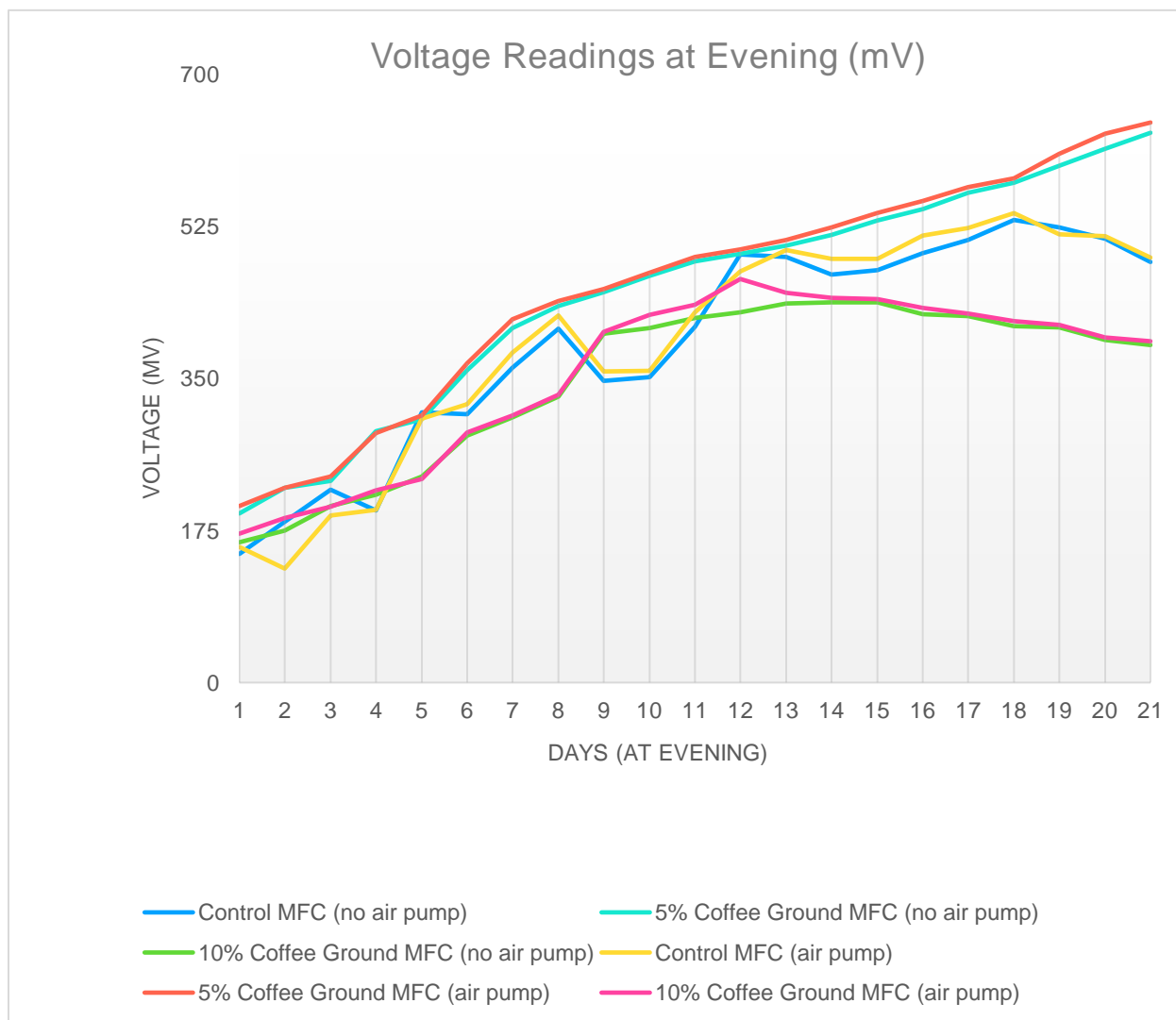


Figure 6: Voltage readings (mV) of each MFC, with and without the presence of an air pump, detected during each evening of the 21-day testing period

| Days (At Evening) | Control MFC Without Air Pump (mV) | Control MFC With Air Pump (mV) | 5% Coffee Ground Addition MFC Without Air Pump (mV) | 5% Coffee Ground Addition MFC With Air Pump (mV) | 10% Coffee Ground Addition MFC Without Air Pump (mV) | 10% Coffee Ground Addition MFC With Air Pump (mV) |
|------------------------------|--|---|--|---|---|--|
| 1 | 148.1 | 156.1 | 152.7 | 203.1 | 161.4 | 171.3 |
| 2 | 185.3 | 131.1 | 224.0 | 224.0 | 175.0 | 189.2 |
| 3 | 221.7 | 191.9 | 232.0 | 237.0 | 203.0 | 202.0 |
| 4 | 198.3 | 199.6 | 289.1 | 287.3 | 216.6 | 221.0 |
| 5 | 311.3 | 304.3 | 303.2 | 307.0 | 237.2 | 234.0 |
| 6 | 309.0 | 320.2 | 359.7 | 367.2 | 284.3 | 287.6 |
| 7 | 362.0 | 379.8 | 407.9 | 417.8 | 305.4 | 307.2 |
| 8 | 407.5 | 422.1 | 433.7 | 439.4 | 329.3 | 331.4 |
| 9 | 347.4 | 358.1 | 449.4 | 452.7 | 401.7 | 403.2 |
| 10 | 351.7 | 358.9 | 467.6 | 471.3 | 407.6 | 422.7 |
| 11 | 409.6 | 425.8 | 484.3 | 489.4 | 419.7 | 434.7 |
| 12 | 492.3 | 472.9 | 493.4 | 498.3 | 425.7 | 464.3 |
| 13 | 489.6 | 497.3 | 502.7 | 509.5 | 436.4 | 448.1 |
| 14 | 469.4 | 487.3 | 514.8 | 523.7 | 437.4 | 442.3 |
| 15 | 474.3 | 487.3 | 531.5 | 540.2 | 437.4 | 440.9 |
| 16 | 493.7 | 514.3 | 544.3 | 554.2 | 424.1 | 431.3 |
| 17 | 509.0 | 522.8 | 563.7 | 570.3 | 421.7 | 424.2 |
| 18 | 532.2 | 540.1 | 574.8 | 580.1 | 410.0 | 415.8 |
| 19 | 523.7 | 515.4 | 594.7 | 608.4 | 408.3 | 411.4 |
| 20 | 510.3 | 513.3 | 614.2 | 631.7 | 394.2 | 397.2 |
| 21 | 483.6 | 488.8 | 632.5 | 644.3 | 388.4 | 392.8 |

Table 3: Voltage readings (mV) of each MFC, with and without the presence of an air pump, detected during each evening of the 21-day testing period

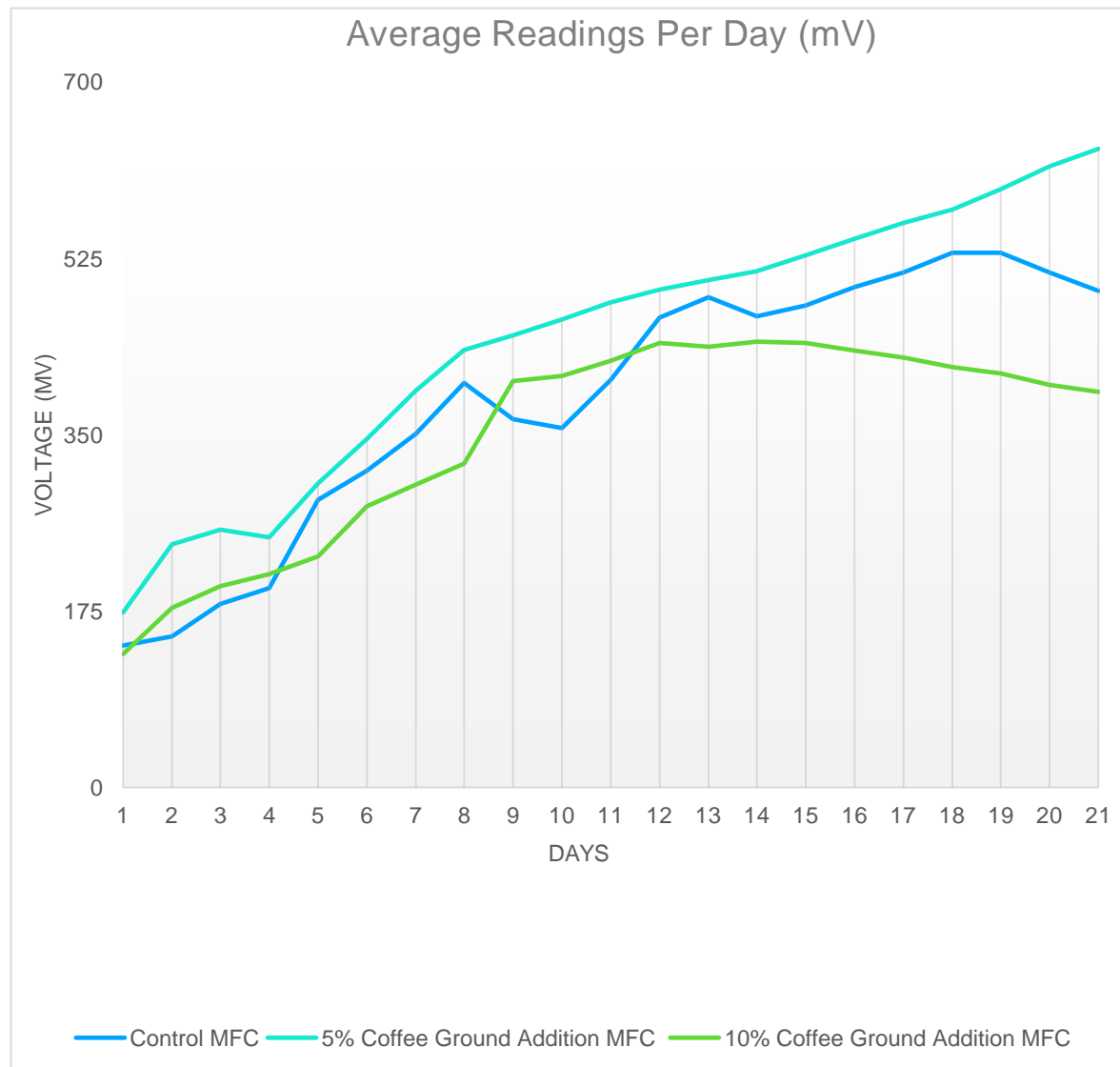


Figure 7: Average voltage reading detected per day from each MFC across the 21 day testing period

| Day | Control MFC | 5% Coffee Ground Addition MFC | 10% Coffee Ground Addition MFC |
|-----|-------------|-------------------------------|--------------------------------|
| 1 | 140.80 | 173.65 | 132.4 |
| 2 | 149.77 | 241.60 | 178.23 |
| 3 | 182.23 | 255.82 | 199.75 |
| 4 | 197.85 | 248.32 | 211.58 |
| 5 | 285.33 | 301.82 | 229.33 |
| 6 | 314.42 | 346.1 | 279.38 |
| 7 | 351.15 | 394.07 | 300.35 |
| 8 | 401.43 | 434.05 | 321.38 |
| 9 | 365.3 | 448.95 | 403 |
| 10 | 356.3 | 464.3 | 408.17 |
| 11 | 404.62 | 481.1 | 423.22 |
| 12 | 466.47 | 494.12 | 441.23 |
| 13 | 486.3 | 503.2 | 437.25 |
| 14 | 467.68 | 512.25 | 442.35 |
| 15 | 477.95 | 528 | 440.9 |
| 16 | 496.28 | 544.73 | 433.42 |
| 17 | 511.15 | 560.06 | 426.6 |
| 18 | 530.58 | 573.22 | 416.98 |
| 19 | 530.38 | 593.42 | 410.83 |
| 20 | 511.3 | 616.37 | 399.17 |
| 21 | 493.05 | 633.73 | 392.32 |

Table 4: Average voltage reading detected per day from each MFC across the 21-day testing period.

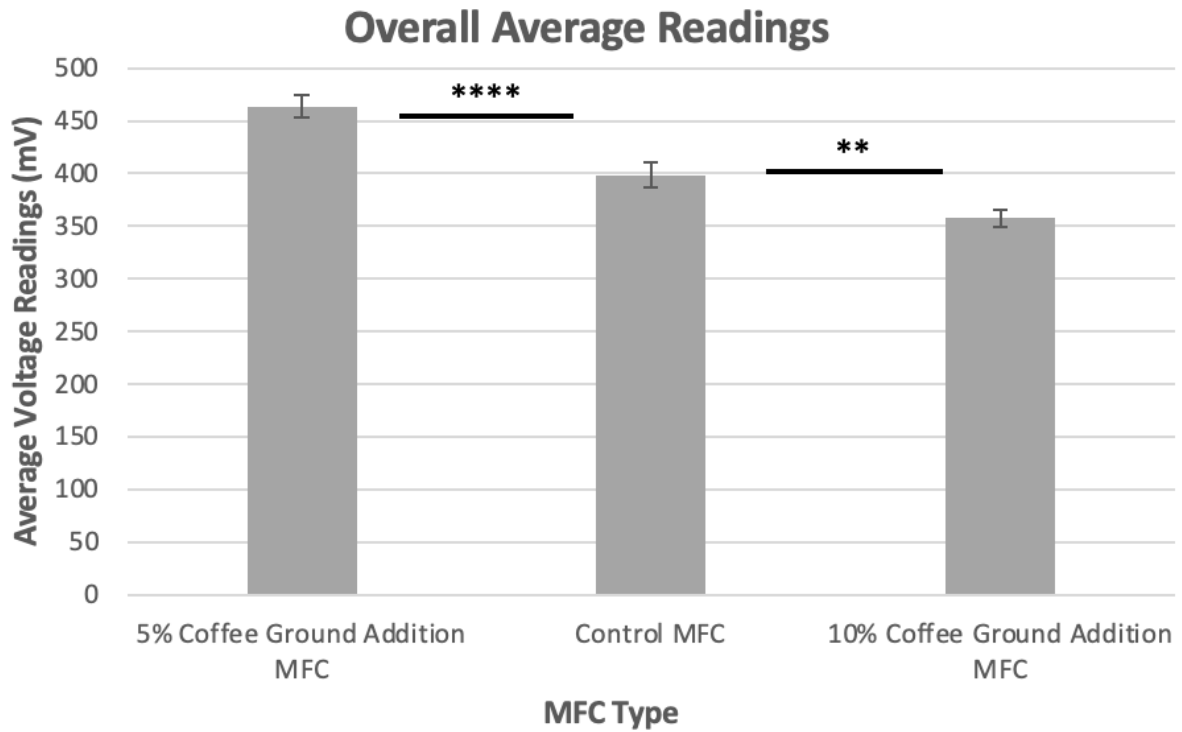


Figure 8: Overall average readings for each MFC, with data significance and confidence indicated by error bars and asterisk.