*Supplementary Materials*

# The Galvanic Effect of Titanium and Amalgam in the Oral Environment

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(1) All values are the Intensity reading in cps (counts per second)

(2) Data acquired in Medium Resolution (MR), Rh and Re used as internal standards for correlation.

(3) All samples from soaking experiment are diluted 25× using Diluent Acid. Appropriate multiplication must be done to convert the raw readings to ppb reported in manuscript

**Table S1.** Titanium Calibration Intensity Avg.

| Isotope | Blank | STD4 | STD3 | STD2 | STD1 |
|---|---|---|---|---|---|
| Ti49(MR) | 23 | 46.7 | 382.2 | 3558.2 | 34675.5 |
| Cu63(MR) | 26.9 | 555.7 | 3401.4 | 34157.2 | 331376.7 |
| Rh103(MR) | 58.4 | 346463.8 | 341935.1 | 344990 | 339252 |
| Ag107(MR) | 78.7 | 207.4 | 1667 | 16113.9 | 156421.6 |
| Sn118(MR) | 12 | 213 | 2218.6 | 22369 | 222231.1 |
| Re185(MR) | 35.6 | 193608.3 | 190063 | 192073.2 | 193937.2 |
| Hg202(MR) | 136.1 | 188 | 193.5 | 279.6 | 441.7 |

**Table S2.** Blank Test Solutions Used in Experiment Intensity Avg.

| Isotope | Diluent Acid | pH 2 Buffer | pH 7 Buffer | pH 10 Buffer |
|---|---|---|---|---|
| Ti49(MR) | 29.6 | 45.9 | 511.9 | 328.2 |
| Cu63(MR) | 96.3 | 113 | 104.6 | 1910.8 |
| Rh103(MR) | 353049.8 | 354796.4 | 366629.4 | 368963.8 |
| Ag107(MR) | 79.6 | 39.8 | 25 | 22.2 |
| Sn118(MR) | 6.5 | 87 | 293.5 | 90.7 |
| Re185(MR) | 197853.4 | 198151 | 200808.6 | 194522.4 |
| Hg202(MR) | 221.3 | 380.6 | 435.2 | 608.5 |

**Table S3.** Solutions from Soaking Ti Rods ONLY (no amalgam) Intensity Avg

| Isotope | pH 2 | pH 7 | pH 10 |
|---|---|---|---|
| Ti49(MR) | 51.9 | 508.2 | 5459.2 |
| Cu63(MR) | 185966711.6 | 32456.9 | 60331299.7 |

| | | | |
|---|---|---|---|
| Rh103(MR) | 378170.9 | 367666.5 | 373206.7 |
| Ag107(MR) | 6145.6 | 1250.9 | 12654.8 |
| Sn118(MR) | 40052.9 | 74034.3 | 40192999 |
| Re185(MR) | 204491.3 | 192682 | 198040.4 |
| Hg202(MR) | 2442.9 | 499.2 | 51086090.9 |

**Table S4.** Solutions from Soaking Ti Rods with amalgam Intensity Avg

| Isotope | pH 2 | pH 7 | pH 10 |
|---|---|---|---|
| Ti49(MR) | 27.4 | 540.1 | 4792.4 |
| Cu63(MR) | 240195924 | 21866.7 | 33620312.8 |
| Rh103(MR) | 381132.2 | 374073.9 | 374382.8 |
| Ag107(MR) | 3832.5 | 64.8 | 17426.6 |
| Sn118(MR) | 18737.1 | 35895 | 17536470.5 |
| Re185(MR) | 205655.6 | 201670 | 198003.8 |
| Hg202(MR) | 1407.5 | 511.2 | 17709765.7 |

**Table S5.** Final Wash of ICP-MS to demonstrate memory effect of Hg

| Isotope | 5% $HNO_3$ Wash |
|---|---|
| Ti49(MR) | 21.5 |
| Cu63(MR) | 1496.5 |
| Rh103(MR) | 48.9 |
| Ag107(MR) | 20.4 |
| Sn118(MR) | 1079.4 |
| Re185(MR) | 25.2 |
| Hg202(MR) | 359544.4 |



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