

## Supplemental Information (SI)

### Investigate the Impacts of Potable Water Plastic Pipes Surface Aging on their Lead Deposition Characteristics

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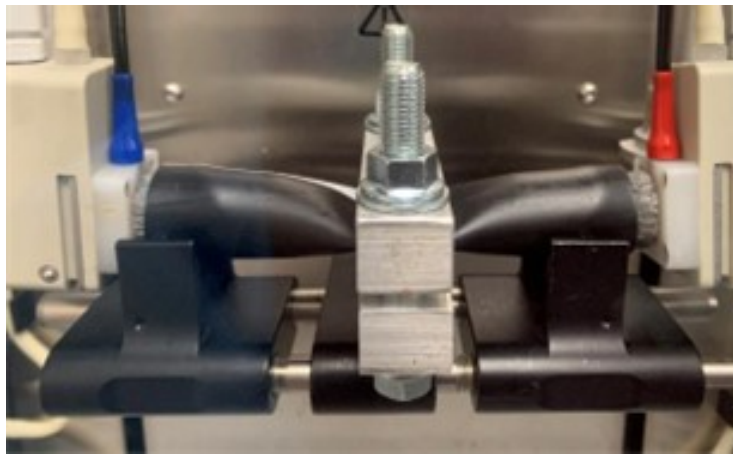
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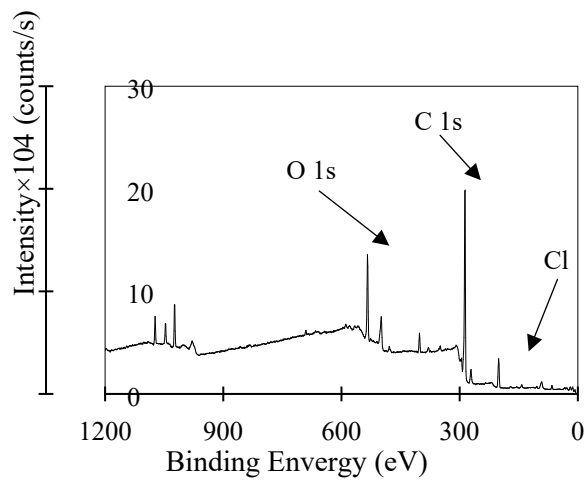
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### SI-1 Statistical Analysis

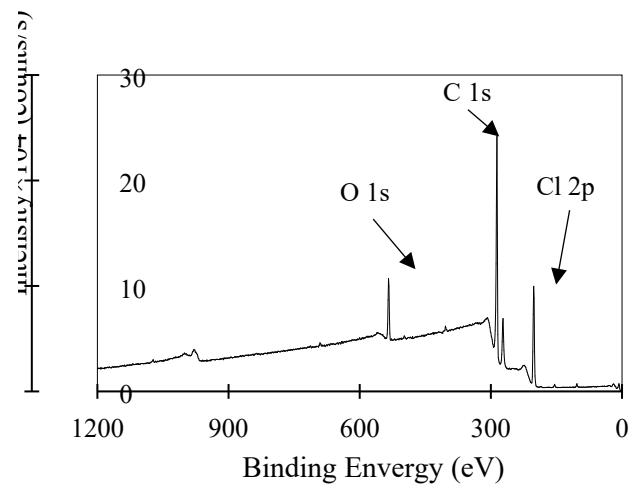
IBM SPSS version: 29.0.0.0 (241) and Microsoft Excel were used to conduct the statistical analysis. ANCOVA and student's t-test were used to examine whether the Pb accumulation on the various samples differed significantly from one another. A 95% corresponding confidence range was used to calculate statistical significance.



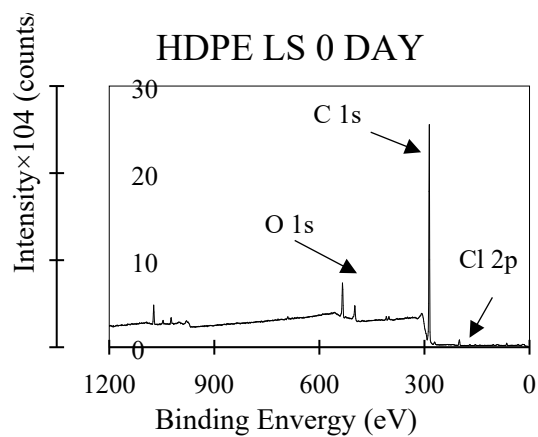
**Figure SI-1:** Custom apparatus used to measure the zeta potential of HDPE pipes' inner walls



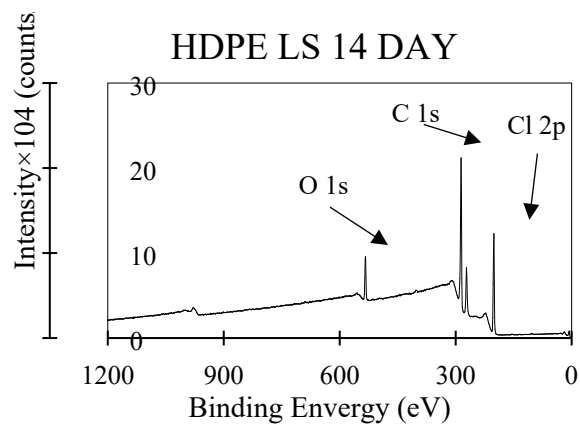
(a) new PEX-A



(b) 14 d aged PEX-A



(c) new HDPE



(d) 14 d aged HDPE

**Figure SI-2:** XPS long scans of (a) new PEX-A, (b) 14 d aged PEX-A, (c) new HDPE, and (d) 14 d aged HDPE

**Table SI-1:** The chemical constituents of synthetic tap water

| Chemicals   | Concentration (g/L) | Chemicals   | Concentration, (g/L) |
|---|---------------------|---|----------------------|
| MgSO <sub>4</sub> .7H <sub>2</sub> O                                | 0.201               | Na <sub>2</sub> SiO <sub>3</sub> .9H <sub>2</sub> O | 0.049                |
| Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> .18H <sub>2</sub> O | 0.004               | CaSO <sub>4</sub> .2H <sub>2</sub> O                | 0.051                |
| KNO <sub>3</sub>  | 0.013               | CaCl <sub>2</sub> .2H <sub>2</sub> O                | 0.120                |
| NaHCO <sub>3</sub>  | 0.039               | Na <sub>2</sub> HPO <sub>4</sub> .7H <sub>2</sub> O | 0.003                |