

Supplementary Materials

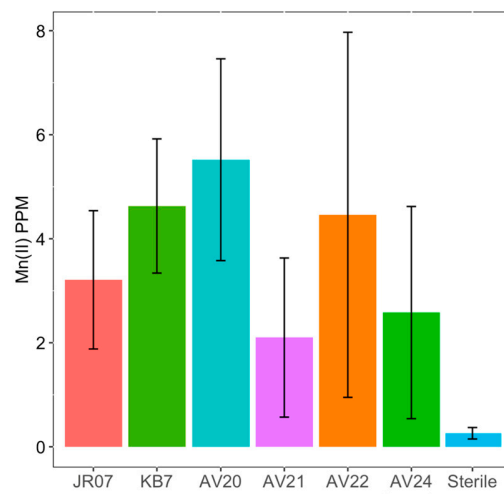


Figure S1. Resolubilization of Mn(II) from CMD solids with acidogenic bacterial isolates detected with formaldoxime (FAD) assay.

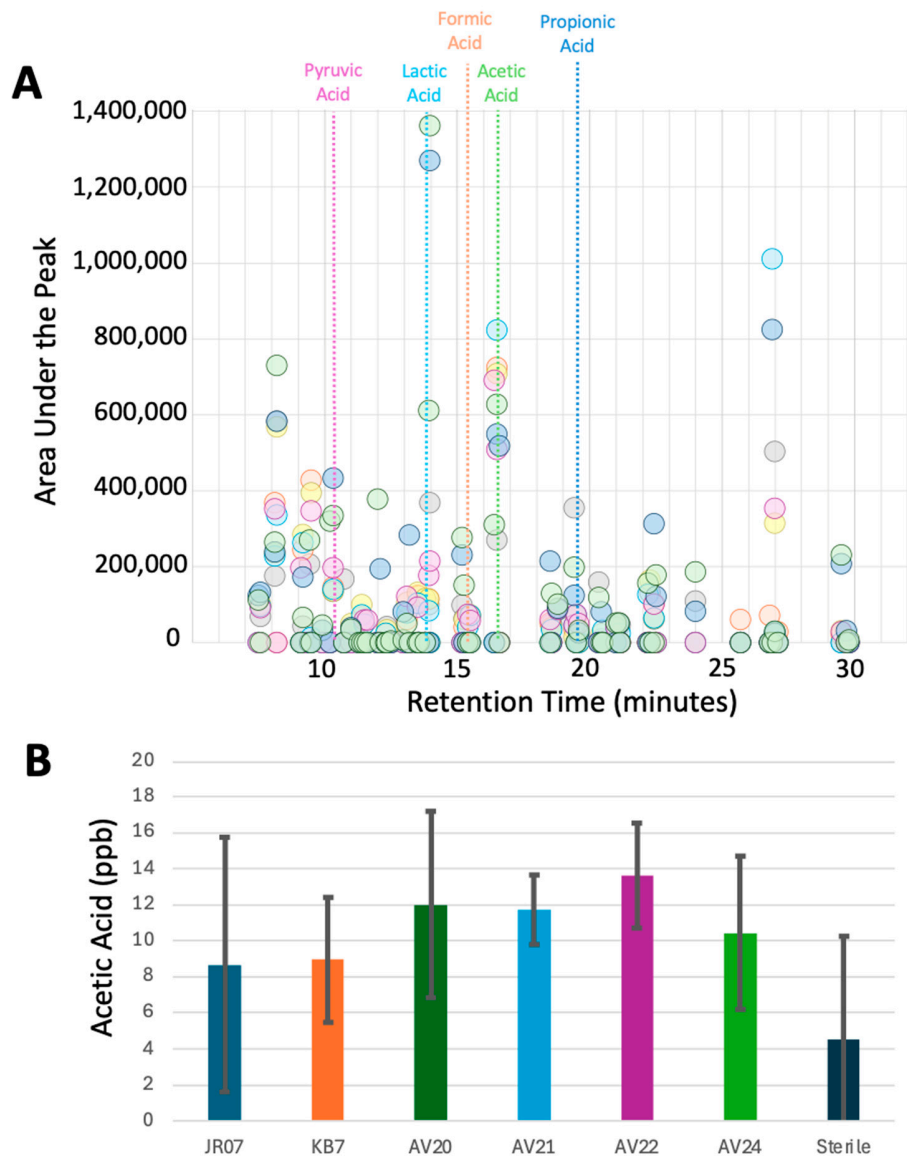


Figure S2. Organic acid production by bacterial isolates. **A.** HPLC data for sterile and inoculated with bacterial acidogenic isolates. Circles represent each sample: sterile (grey), *B. cereus* AV20 (orange), *Corynebacterium* sp. AV21 (yellow), *Bacillus* sp. AV22 (light blue), *Corynebacterium* sp. AV24 (purple), *B. pseudomycoides* KB7 (dark blue), *B. mycoides* JR07 (green). Vertical dotted lines indicate retention times for known carbons: pyruvic acid (pink ~10.3 minutes), lactic acid (light blue ~13.9 minutes), formic acid (orange ~15.2 minutes), acetic acid (green ~16.5 minutes), propionic acid (dark blue ~19.5 minutes). The greatest peak is seen for lactic acid with *B. pseudomycoides* KB7 and *B. mycoides* JR07. **B.** Acetic acid production.

Table S2. Whole genome sequencing of *B. pseudomycoides* KB7 and *B. mycoides* JR07. Table reports genome size, completeness of genome sequence, contamination, GC content, genes predicted, and number of protein coding genes predicted. 16S rRNA identification was determined from whole genome sequencing and genes of interest for acidogenesis metabolism were determined using the annotated genome sequences.

	KB7	JR07
Genome Size	5.88 Mbp	5.65 Mbp
Complete	99.4%	99.4%
Contamination	0.9%	0.0%
% GC	35.4%	35.2%
Genes Predicted	6,009	5,684
Protein Coding Genes	5,962	5,637