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Authors: Naomi J. Boxall, Ka Yu Cheng, Warren Bruckard, Anna H. Kaksonen



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Application of indirect non-contact bioleaching for extracting metals from waste lithium-ion batteries

Naomi J Boxall^{1*}, Ka Yu Cheng¹, Warren Bruckard², Anna H Kaksonen^{1,3}

Affiliations:

¹ CSIRO Land and Water, Private Bag No. 5, Wembley, Western Australia 6913, Australia

² CSIRO Mineral Resources, Private Bag 10, Clayton South, Victoria 3169, Australia

³ School of Pathology and Laboratory Medicine, and Oceans Institute, University of Western Australia, Nedlands, Western Australia 6009, Australia

*corresponding author: naomi.boxall@csiro.au; +61 8 9333 6260

Graphical Abstract

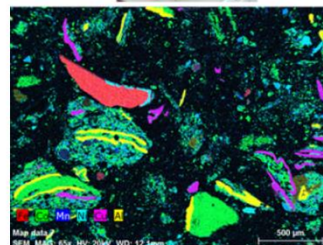
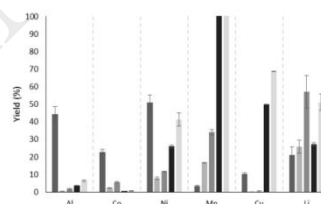
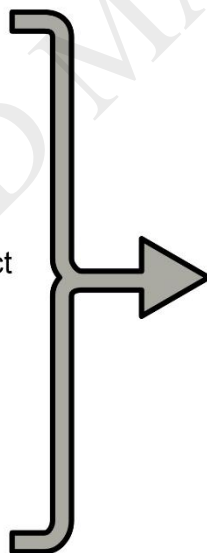
Crushed waste
lithium-ion batteries



Indirect, non-contact
bioleaching



Biogenic reagents
±
100 mM sulfuric
acid



Metal-rich leach solutions

Application of indirect non-contact bioleaching for extracting metals from waste lithium ion batteries

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