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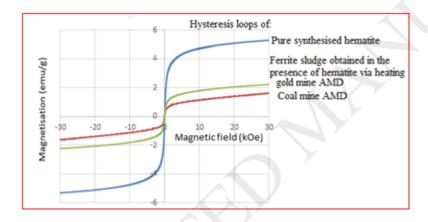
# ACCEPTED MANUSCRIPT

Synthesis and application of hematite nanoparticles for acid mine drainage treatment Kebede K Kefeni\*, Titus A.M Msagati, Thabo Tl Nkambule, Bhekie B Mamba\*

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## **Graphic Abstract**



## **Highlights**

- Calcination of mixed iron oxide at 500°C able to form pure α-Fe<sub>2</sub>O<sub>3</sub> NPs
- Treatment of AMD in the presence of α-Fe<sub>2</sub>O<sub>3</sub> NPs enhance rate of pollutant removal
- Presence of α-Fe<sub>2</sub>O<sub>3</sub> in AMD resulted in formation of stable sludge
- Metal recovery is possible when AMD is treated in the presence of α-Fe<sub>2</sub>O<sub>3</sub>

#### **Abstract**

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