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Antibiotics and antibiotic resistance genes in landfill

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Antibiotics and antibiotic resistance genes (ARGs) are big challenges for human beings. Use and disposal of antibiotics results in the release of large amounts of antibiotics into environment via different ways, including discharge from municipal sewer systems, application of biosolids onto agricultural fields and aquaculture etc. Landfills receive unused and unwanted antibiotics and ARGs in municipal solid waste (MSW) and are supported to be important reservoirs of antibiotics and ARGs. However,

the extent of antibiotic and ARGs present in landfills has not been fully characterized. Here, we investigated the distribution and dynamics of antibiotics and ARGs in several landfills in China. Our results showed that (1) antibiotics and ARGs are widely distributed in refuse and landfill leachate and (2) physiochemical parameters of refuse and leachate impact the distribution of antibiotics and ARGs in landfill.

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