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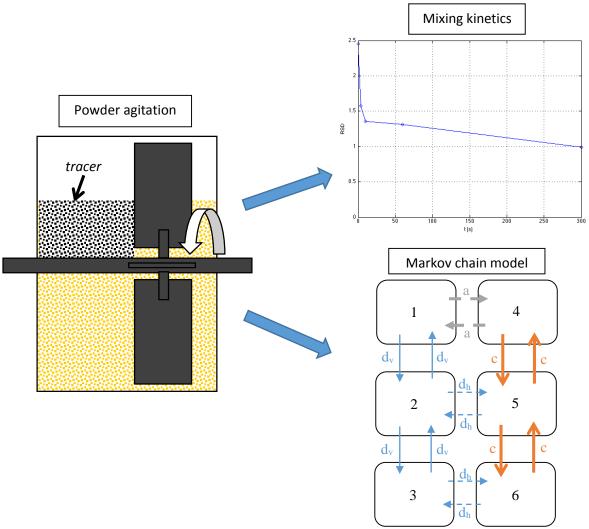
# Powder flow dynamics in a horizontal convective blender: tracer experiments

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#### **Graphical Abstract**



#### Highlights:

• 1 – Free flowing and cohesive powder flows are investigated through tracer experiments.

• 2 – Three main mixing mechanisms are identified: convection, avalanching and diffusion.

• 3 – A Markov chain model based on these mechanisms is developed to support the data

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