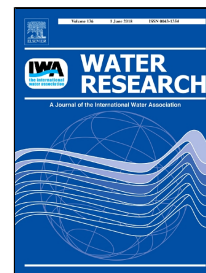


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Analysis and Modelling of Powdered Activated Carbon Dosing for Taste and Odour Removal

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1 **Analysis and Modelling of Powdered Activated Carbon Dosing**
2 **for Taste and Odour Removal**

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13 **Abstract:** A series of experiments were undertaken in order to
14 understand and predict the dosage of powdered activated carbon
15 required to remove taste and odour compounds in an Australian
16 drinking water treatment plant. Competitive effects with organic
17 matter removal by aluminium sulphate during coagulation were also
18 quantified. Data on raw and finished water quality following jar tests,
19 as well as chemical dosages and treatment performance, were
20 statistically analysed, and a data-driven prediction model was
21 developed. The developed powdered activated carbon dosage
22 prediction model can be used by the plant operators for rapid dosage
23 assessment and can increase the preparedness of the plant to sudden
24 taste and odour events. It was also found that total organic carbon
25 levels and properties greatly affect the ability of powdered activated
26 carbon to remove taste and odour compounds; on the other hand,

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