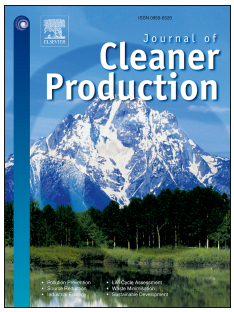
Accepted Manuscript



Robustness analysis of a green chemistry-based model for the classification of silver nanoparticles synthesis processes

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PII: S0959-6526(17)31284-2

DOI: 10.1016/j.jclepro.2017.06.113

Reference: JCLP 9863

To appear in: *Journal of Cleaner Production*

Received Date: 1 October 2016

Revised Date: 13 June 2017

Accepted Date: 13 June 2017

Please cite this article as: Cinelli M, Coles SR, Nadagouda MN, Błaszczyński J, Słowiński R, Varma RS, Kirwan K, Robustness analysis of a green chemistry-based model for the classification of silver nanoparticles synthesis processes, *Journal of Cleaner Production* (2017), doi: 10.1016/j.jclepro.2017.06.113.

Graphical abstract

Test production processes for the synthesis of silver nanoparticles	Model 1 developed with Dominance-based Rough Set Approach (DRSA) method	Model 2 (proposed in this article) developed with ELECTRE method					Concordance between models
	$Class_1 < C_2 < C_3 < C_4 < Class_5$						
	Recommended class of performance	C_1	C_2	C_3	C_4	C_5	
t_1	C_5	0%	0%	13%	6%	81%	Yes
t_2	C_2	0%	92%	0%	8%	0%	Yes
t_3	C_2	0%	77%	23%	0%	0%	Yes
t_4	C_4	0%	0%	19%	67%	14%	Yes
t_5	C_2	7%	93%	0%	0%	0%	Yes

Research results:

- The same class is recommended for the test production processes by the two MCDA models from 76.0 % up to 93.3 % of the comparisons (120 in total)
- Enriched decision recommendations emerge from joint use of MCDA methods