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Journal Name:	Advances in Research
Manuscript Number:	2015_AIR_16795
Title of the Manuscript:	Optimization of base oil regeneration from spent engine oil via solvent extraction
Type of the Article	Original Research Article

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PART 1: Review Comments

Reviewer's commentAuthor's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)Compulsory REVISION commentsMany studies are using the CCD/RSM to optimize processes, but this tool needs to be used carefully. There are a lot of studies which used "time" as one of the independent variables (for example: digestion time, extraction time, distillation time, fermentation time, etc). I recommend to think if there is no other independent variable to study in this process; is recommend to collect samples at different times (each 5 or 10 min, for example) and do not use "time" as an independent variable of the process. So, the authors can optimize the solvent and other independent variable which resulted in the best responses (base oil yield and ash content) in a specific time, not in a time estimated by the CCD matrix. At conclusions section the authors cited that the "time had less or no effect on the yield whereas its increment increased the ash content of the oil which is not desirable". Also in the surface plots is possible to see this: the time had no effect on the responses at any level.Minor REVISION commentsAuthor also cited that "a numerical optimization was used to determine the experimental data that gave the optimal conditions". The authors found the "optimum conditions predicted as solvent to oil ratio of 5:1and time et at a due no ruliadized by treposited to promum".			
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	experimentally the model obtained, not only numerically. The experimental values of the response variables obtained from the optimized process needs to be close and in linear with the predicted values.	
Optional/General comments	In this order, is recommend to repeated, if possible, this experiment with another independent variable and collecting samples at regular time intervals to obtain the best responses for this study.	

Reviewer Details:

Name:	Anonymous
Department, University & Country	Federal University of Technology (UTFPR), Brazil