



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	International Research Journal of Pure and Applied Chemistry
Manuscript Number:	2015_IRJPAC_18119
Title of the Manuscript:	Desulfurization of Tawke diesel fuel Using Na-Y type zeolite and active carbon
Type of the Article	Original Research Article

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
The manuscript needs a professional review for English use. The authors should be more careful with the manuscript form. Lines 137-138: "By increasing the percentage of activated charcoal to 10% the sulfur recovery was 9.79% after 3 hrs shaking and 1.5% with clay." The reduction of sulphur concentration for activated carbon is around 20% (from 1 wt% to 0.8 wt%). Lines 160-164: "The data show that the desulfurization by activated carbon increased more than clay and zeolite (H-Y type zeolite) as the temperature increased, while clay and zeolite respond very little, It may be attributed to the endothermic nature of the process, which is enhanced with the rise in temperature." Adsorption is a physical process. Temperature rise will not favour this process. The increase of the removal for higher temperatures is probably due to diesel viscosity decrease that favours the access to adsorption sites inside the pores. Lines 164-167: "The activated charcoal exhibited better performance in desulfurization of diesel than all zeolite types, it could adsorb both nitrogen species and refractory sulfur species in diesel while adsorption capacity for nitrogen species is much larger than that for sulfur species." This is not an explanation for the performance of activated carbon. Lines 167-170: "The sulfur content after treatment with granular H-MOR type zeolite without binder is less than that treated with granular H-Y type zeolite this is due to the adsorption on MOR without binder affected by method of synthesis (clay particles) and MOR type zeolite more sensitive than Y type zeolite." This sentence is not clear or precise. Y and MOR zeolites have many differences such as chemical composition (silica-alumina molar ratio), pore structure and size, surface area that can influence the adsorption of sulphur compounds. The GC results do not contribute to the manuscript. The adsorption of sulphur compounds was verified and measured by X-ray fluorescence, so the adsorption of these compounds was already proved. No other information was added by the chromatograms. Figures 6 and 7 are useless. The infrared spectra of untreated and treated diesel (Figures 4 and 5) are very similar. It is difficult to see what is stated in the following sentence "The significant suppression and changes in transmittance spectral band within the region of 1200-600cm⁻¹ indicates that a portion of organic sulfur compounds is suppressed.". Again the removal of sulphur compounds was verified by X-ray fluorescence. The manuscript presents a small amount of experimental data and the discussion of the results is superficial and not accurate. The lack of adsorbents characterization also hampers the discussion. The authors should have tried to use the literature to overcome these problems.	1. Line 141 corrected 2. Line 165 corrected 3. Lines 168-171 corrected 4. The infrared spectra enhance the prediction of sulphur reduction, as a value that indicate the lower in adsorption intensity before and after reduction. 5. The GC results were cancelled according to reviewer opinion