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Interactive
comment

Interactive comment on "Optimized photodegradation of Bisphenol A in water using ZnO, TiO$_2$ and SnO$_2$ photocatalysts under UV radiation as a decontamination procedure" *by* Rudy Abo et al.

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This is an interesting study relying on photo degradation of Bisphenol A with and without different catalysts. It does address an important issue in water treatment. Still, the manuscript could benefit from the following considerations and remarks:

Page 2, line 20: The statement "Metal oxides have been widely used as catalysts for Photo degradation in recent years" asks for recent references.

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Page 3, line 3: If oxygen is a strong oxidant, why not first saturate the water with oxygen before applying photolysis?

Page 3, line 31: Explain why these lamps with these wavelengths and intensity range mimics solar radiation. This is an important issue regarding the objective of the study (P1, line 8). Is the unit $\mu W/m^3$ correct?

P4, line 2: During the experiments of 15 hours, every hour 5 ml is extracted from the sample. Did that effect the UV-dose of the remaining sample and could that effect the results?

Page 4, line 9: "BPA in 100 ml ultra-pure water were prepared and mixed for 15 min using a magnetic stirrer at 400 rpm rotation speed in order to allow maximal sorption of BPA on the catalysts' surface". The samples were not stirred during irradiation? Did the catalyst settle and did that effect the experiments?

Page 5, line 23: Can you explain why the photo-Fries reaction rearrangement of BPA starts after about 240 minutes?

P5, line 26: Do you have an explanation for the concentration dependency in degradation rate?

P6, line 7&8: Does the value of the gap has a unit?

P6, line 18: The mentioned percentages do not match with Fig. 8. If the numbers in Fig. 8 are correct, than the relative increase in degradation is the same for SnOâĆĆ and ZnO, namely about 55%. Could that influence your conclusions about this experiment?

Page 7, line 13: "The other degradation byproducts were investigated using GC-MS". Which byproduct(s) was(were) discussed earlier in this paragraph? For readability it is to consider to start a new paragraph about byproducts.

Page 7, line 1: The applied NaOCl doses were high, till 37.5 mg/L. Do you agree that, depending on the water quality of surface and groundwater, a considerable amount of

DBPs can be formed, also with toxic properties (as BPA). To avoid that the "remedy is worse than the disease", could a footnote be of importance?

Page 7, line 17: "The results show, that BPA reacts rapidly with sodium hypochlorite. It is likely that a chlorination dominates the degradation process by the electrophilic attack of HOCl on the phenoxide ions". This stat ement seems in conflict with the statement in the Introduction (Page 2, line 33). Can you comment?

Page 7, line 18: Which part of the degradation efficiency of BPA is caused by the reaction with HOCl and which part by the catalyst?

Please also note the supplement to this comment:
http://www.drink-water-eng-sci-discuss.net/dwes-2016-5/dwes-2016-5-RC1-supplement.pdf

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