

We would like to thank the Editor and the anonymous referee for their comments and for considering our manuscript for publication in ACP after revisions. Our responses to the comments provided together with the changes made in the revised manuscript are provided below.

Referee 2 comments:

Referee 2

Could the authors explain the T-dep. SAR values in the manuscript text regarding the prediction of T-dep. OH radicals in aqueous solution, not just in the Supporting Information? For example, by comparing the SAR rate constants to the measurements that were not part of the training set in an Arrhenius plot.

Author's response: We agree with this comment, the SAR performance at different temperatures was not sufficiently discussed. Please note however that we did not separate the compiled kinetic dataset into the training and evaluation sets. We believe that such an approach is adequate only when larger datasets are available to train the predictive model. At the same time, the current the aqueous kinetic databases still contain a relatively low number of rate coefficients, especially when compared with gas-kinetic databases.

Changes in the manuscript: The original Table S6 was removed from the SI. Figs. 10 and 11 were added in the main text to illustrate the performance at different temperatures. Table S9 was added in the SI, listing the results of the linear regression analysis of the measured (independent variable) vs predicted (dependent variable) k_{OH} for the compounds used to optimize SAR factors at different temperatures – this data are presented in Fig. 11 and discussed in the main text – lines 460-464 and 473-480.

Referee 2

Authors should still check the revised manuscript and Supporting Information for spacing errors and typographical errors, such as in Table S3.

Author's response: We thank you for this comment.

Changes in the manuscript: The entire manuscript was revised (please see also the annotated version of the revised manuscript) and the spacing errors in the SI were corrected, whenever possible, and the volume of the SI was reduced.