

## MINISTRY OF RESEARCH, TECHNOLOGY, AND HIGHER EDUCATION UNIVERSITAS NEGERI SEMARANG FACULTY OF MATHEMATICS AND NATURAL SCIENCES DEPARTMENT OF INTEGRATED SCIENCES IN COLLABORATION WITH PERKUMPULAN PENDIDIK IPA INDONESIA JURNAL PENDIDIKAN IPA INDONESIA



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We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

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