

Review Form 1.7

Journal Name:	Asian Journal of Applied Chemistry Research
Manuscript Number:	Ms_AJACR_114124
Title of the Manuscript:	Antioxidant activity of thiazolidinedione analogues: Results of descriptor- based quantitative structure-activity relationship studies
Type of the Article	Original Research Article

Review Form 1.7

PART 1: Review Comments

	Reviewer's comment	Author'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)
<p>Compulsory REVISION comments</p> <ol style="list-style-type: none"> 1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript) 2. Is the title of the article suitable? (If not please suggest an alternative title) 3. Is the abstract of the article comprehensive? 4. Are subsections and structure of the manuscript appropriate? 5. Do you think the manuscript is scientifically correct? 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>Overall, the manuscript provides valuable insights into the antioxidant properties of TZDs and identifies specific compounds with promising activity for further development and exploration. It contributes to the understanding of structure-activity relationships in the context of antioxidant compounds, which is relevant for both medicinal chemistry and drug discovery efforts.</p> <p>"Insights into Thiazolidinedione Analogues: Unveiling Antioxidant Activity through Descriptor-Based Quantitative Structure-Activity Relationship Investigations"</p> <p>Overall, the abstract provides a comprehensive overview of the research, summarizing the main objectives, methods, findings, and implications of the study. The manuscript provides a comprehensive overview of the evaluation of the antioxidant potential of thiazolidinedione (TZD) analogues and their quantitative structure-activity relationship (QSAR) analysis. Here are some points to consider regarding the scientific correctness of the manuscript:</p> <ol style="list-style-type: none"> 1. Introduction: <ul style="list-style-type: none"> • The introduction provides a clear overview of diabetes mellitus, its complications, and the role of oxidative stress in diabetic complications. • The connection between oxidative stress, antioxidant potential, and diabetes therapy is well-established in the literature and forms a logical basis for the research. • The introduction also highlights the potential of TZDs in attenuating insulin resistance and their antioxidant properties, which provides context for the subsequent investigation. 2. Methodology: <ul style="list-style-type: none"> • The methodology section describes the tools, chemistry, and evaluation of in vitro antioxidant activity in detail. The methods appear scientifically sound and standard for evaluating antioxidant potential. • The use of UV-Visible spectrophotometer for measuring absorbance, the calculation of PIC50 values, and the utilization of QSAR analysis using appropriate software and computational tools are appropriate for this type of study. 3. Results and Discussion: <ul style="list-style-type: none"> • The results section presents the findings of the evaluation of antioxidant potential and QSAR analysis comprehensively. • The DPPH and nitric oxide radical scavenging activities of TZDs are reported, along with comparisons to reference compounds like ascorbic acid and butylated hydroxy anisole. • The QSAR analysis results are provided in detail, including statistical relevance of models and the contribution of molecular descriptors to antioxidant activity. • The discussion interprets the results effectively, highlighting the significance of electron-donating groups and specific molecular descriptors in enhancing antioxidant activity. 4. Conclusion: <ul style="list-style-type: none"> • The conclusion succinctly summarizes the key findings of the study, emphasizing the importance of electron-donating groups and specific TZDs (compounds 11, 12, 23, and 24) as potential leads for further investigation. • The conclusion also discusses the implications of the QSAR analysis and provides direction for future research. 5. References: 	

Review Form 1.7

	<ul style="list-style-type: none">The references cited in the manuscript appear relevant and contribute to the scientific background of the study. <p>Overall, the manuscript appears scientifically correct and well-written, providing valuable insights into the antioxidant potential of TZD analogues and their structure-activity relationships.</p> <p>Yes, References are sufficient.</p>	
Minor REVISION comments		
1. Is language/English quality of the article suitable for scholarly communications?	The manuscript is written in a formal and technical style appropriate for scientific publications. The text is clear and coherent, presenting information in a structured manner with appropriate scientific terminology. Additionally, the article includes references to previous research studies and uses standard scientific formatting conventions, such as tables and figures, to present data and results. Overall, the language and English quality meet the standards expected for scholarly communication in scientific literature.	
Optional/General comments		

PART 2:

	Reviewer's comment	Author'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)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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