

Review Form2

Book Name:	Recent Developments in Chemistry and Biochemistry Research
Manuscript Number:	Ms_BPR_2320
Title of the Manuscript:	GC and GC-MS Detection of Alkyl Mesylates in Active Pharmaceutical Ingredients
Type of the Article	BOOK CHAPTER

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimumof 3-4 sentences may be required for this part.	- The present manuscript addressing the need for detecting and quantifying mesylate esters in pharmaceutical drugs, which are potent carcinogens. - The development and validation of a highly sensitive GC/GC-MS method with limits of detection and quantification as low as 0.02 and 0.05 ppm, aligns with FDA and ICH guidelines and is valuable for routine analysis in pharmaceutical testing labs. -The comprehensive method validation and the innovative approach for simultaneous quantification of multiple mesylate esters enhance the manuscript's relevance and applicability in ensuring drug safety.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title effectively conveys the core focus of the research. However, it could be more informative by including the specific drugs (DOL, BM, and DEM) studied. Suggested Title:- "Development and Validation of a Sensitive GC and GC-MS Method for the Detection and Quantification of Alkyl Mesylates in Pharmaceutical Active Ingredients"	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	Abstract needs to be improved (Mention abstract at least 200-250 words) The abstract is comprehensive and provides a clear overview of the study. It effectively summarizes the key aspects of the research, including the target compounds, the analytical method used, and the validation results. However, a few points could be improved in order to achieve clarification and completeness of manuscript Suggestions ✓ Clarify the Importance of the Study:The abstract could briefly mention the significance of detecting these mesylates at trace levels, such as their potential health risks, to emphasize why this method is important. ✓ Mention of Specific Validation Parameters:While the abstract states that the method was validated, it could be helpful to briefly mention the specific validation parameters assessed (e.g., accuracy, precision, robustness). ✓ Consider Including Key Findings on Sensitivity:Youmay highlight the achieved sensitivity, particularly the limits of detection and quantification, as this is a key aspect of the method's effectiveness.	
Are subsections and structure of the manuscript appropriate?	The manuscript is detailed and covers various aspects necessary for a scientific research paper. However, to improve the quality of paper it's essential to organize the content effectively. Subsection Titles: Make sure the subsection titles are clear and concise. For example, instead of "Method development and optimization," you might use "Optimization of Chromatographic Conditions."	

	Suggested structure with subsections: 1. Introduction Background Information (Discuss the significance of studying mesylate esters) Health Risks (Detail the carcinogenic, mutagenic, and teratogenic risks associated with mesylate esters) Need for Analytical Methods (Discuss the need for sensitive analytical methods due to FDA and ICH guidelines) Previous Research (Briefly mention previous methodologies and their limitations) Study Objective (Clearly state the AIM & OBJECTIVE of the current research) 2. Materials and Methods ➤ Chemicals and Reagents ➤ Equipment and Software ➤ Preparation of Solutions ➤ Chromatographic Conditions ➤ Method Development and Optimization (Discussion of challenges and how they were addressed) ➤ Method Validation ✓ Specificity ✓ Limit of Quantification ✓ Linearity and Precision ✓ Accuracy and Solution Stability 3. Results ➤ System Suitability ➤ Precision and Linearity ➤ Chromatographic Data (Include tables and figures such as GC and GC-MS chromatograms, mass spectra) 4. Discussion ➤ Method Performance (Discuss how the method meets validation criteria) ➤ Comparison with Previous Studies (Highlight how your method compares favorably with existing methods) with some case studies if possible ➤ Limitations and Future Work /scope (Any limitations observed and potential areas for further research) 5. Conclusion ➤ Summary of Findings (Reiterate the main findings of the study) ➤ Implications for Industry (Discuss the applicability of the method in routine analysis) You can also provide appropriate supplementary Material (If Any)	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	This manuscript is scientifically robust and technically sound because it addresses the detection and quantification of potent carcinogenic mesylate esters, which are critical impurities in pharmaceutical drugs. The study develops and validates a sensitive gas chromatography method with flame ionization detection (GC-FID) and gas chromatography-mass spectrometry (GC-MS) according to established ICH guidelines. The method's low limits of detection (LOD) and quantification (LOQ) ensure precise and accurate trace-level analysis of mesylate esters, demonstrating its practical applicability for routine quality control in pharmaceutical industries.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =	Author may update the references and make sure half of the references are in recent 3 years (2021-2023), another one-fourth reference are in recent 8-10 years and also use uniform referencing style as per publisher guidelines along with DOI. And also author can add some more references	

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Minor REVISION comments		
Is the language/English quality of the article suitable for scholarly communications?	YES	
Optional/General comments	Can mention acknowledgement into the text.	

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?	(If yes, Kindly please write down the ethical issues here in details)	

Reviewer Details:

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