Review Form 3

Book Name:	Current Research Progress in Physical Science
Manuscript Number:	Ms_BPR_4069
Title of the Manuscript:	Intensity dependent third order optical nonlinearity of zinc-tetraphenyl porphyrin ultrathin film in nano-second regime
Type of the Article	Book Chapter

PART 1: Comments

	Reviewer's comment
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	
Is the title of the article suitable? (If not please suggest an alternative title)	
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.	
Is the manuscript scientifically, correct? Please write here.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	
Is the language/English quality of the article suitable for scholarly communications?	
<u>Optional/General</u> comments	Overview This manuscript reports the findings of a ntensity Dependent Third Order Optical Nonlinearity of Zinc-Tetraphenyl Porphyrin Ultrathin film in Nano-Second Regime. The authors explore Zinc-Tetraphenyl Porphyrin Ultrathin film and were evaluated for their Third Order Optical Nonlinearity using the Z-scan technique. The investigation explored the dependence of NLC properties on Intensity. Overall, I think the reported data are not discussed in detail in relation to the methods and also ir relation to the molecules. The authors should give more detail about their study. The paper needs more revision before fina acceptance. Hence, I suggest this manuscript for revision. Specific Comments COMMENT 1) The study should underline the importance for the scientific community of theoretical learning by examining the hyperpolarizability of Zinc-Tetraphenyl Porphyrin Ultrathin film? When referring to these basic concepts, this importance should be emphasized by quoting the relevant literature.
	should be emphasized by quoting the relevant interature.

	Author's Feedback (<i>Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here</i>)
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<u>COMMENT</u> 2) In results part, authors mentioned about evaluated for their first hyperpolarizabilities using the z scan? Why
used this? Explain
COMMENT 3) Lack of comparison with other studies of similar compounds in the introduction and in the results (also in the
tables)
COMMENT 4) the NLO properties section should be detailed; you can calculate several NLO properties.
COMMENT 6) The authors should give the correlation between the hyperpolarizability and the energy gap. Several papers
show the direct relation between the hyperpolarizability and the energy gap. The authors should use these references in the
introduction which study this relation:10.1007/s11664-024-10954-9,10.1016/j.molliq.2024.124260, 10.33224/rrch.2023.68.9.07
10.1016/j.jics.2023.101062,10.1007/s10853-022-07088-w,
10.1016/j.molstruc.2021.131392,10.1080/17415993.2021.1951729,10.1016/j.matchemphys.2021.124280,
10.1039/D0TC01535K, 10.1007/s00706-020-02653-y, <u>10.1016/j.molstruc.2020.128713</u> , 10.1080/17415993.2020.1736073
10.1016/j.molliq.2019.110939, 10.1007/s42250-019-00060-3, 10.1007/s00214-018-2396-8, 10.1016/j.molstruc.2015.10.033
COMMENT 7) If possible, i hope that the authors give in graph the relation between the hyperpolarizability and the energy gap.
<u>COMMENT</u> 8) It should be remove all double space in the all text.
<u>COMMENT</u> 9) It should be add space in several cases like in:
for quantum optical application <mark>s[</mark> 2].
candidates of NLO materials[3].
required framework[4]
cusing nature of the film[6]
electronic kerr effect[9].
intermediate level[10].
<u>COMMENT</u> 10) Author should maintain uniformity γ should be in italics

PART 2:

	Reviewer's comment	Author's comment (if agreed highlight that part in the manus 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:

Name:	Hadji Djebar
Department, University & Country	University of Saida - Dr. Moulay Tahar, Algeria



d with reviewer, correct the manuscript and script. It is mandatory that authors should write