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| Book Name: | **Plasmas Afterglows with N2 for Surface Treatments synthesis 2024** |
| Manuscript Number: | **Ms\_BPR\_3686.24** |
| Title of the Manuscript: | **Plasmalyse – A Plasma Sterilization Prototype** |
| Type of the Article | **Book chapter** |

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| 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 minimum of 3-4 sentences may be required for this part.** | **1- It is a good idea to make a new device for sterilizing medical instruments and connecting it to the commercial autoclave.**  **2- It was observed through the experiment that the new device gave acceptable results, especially in its work inside hospital laboratories because it takes less time and has good results.**  **3 - The third importance of a plasmalyse device is to work with N2 as the dominant gas, avoiding oxidation of the treated devices. On the other hand, the transfer of nitrogen atoms and the inactivation of E. coli through the hollow tubes have been studied.** |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **Yes, The title is appropriate with the content of the chapter** |  |
| 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. | **Yes, the abstract is appropriate and consistent with the chapter content** |  |
| **Are subsections and structure of the manuscript appropriate?** | **Yes, the summary is appropriate and consistent with the content of the chapter but it needs more details due to the importance of the device's work inside hospitals or it may have been considered in more detail in the rest of the chapters of the book.** |  |
| **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.** | **1- The sterilization required to increase the temperature of the supporting bacteria to 120 °C was confirmed: 12 logs of bacteria decrease in 5 minutes, which indicates good results and the reactor can be developed in the future.**  **2- Control to control the N2 flow rate from 1 to 3 L/min using Brooks flow meters to control the pressure of the gas flowing in the 5-liter Pyrex chamber 10-2 Torr.**  **3- Control the transfer of nitrogen atoms through the hollow tubes.** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | **This part of the book contains a very small number of references and due to the importance of the device's work, it needs other references to support the content of this chapter of the book.** |  |
| Minor REVISION commentsIs the language/English quality of the article suitable for scholarly communications? | The quality of the English language is excellent and clear to the recipient |  |
| Optional/General comments | The process of updating the device gave positive results and it is noted that two types of bacteria were used in this chapter of the book. I think if other types of bacteria were used that have an effect on teeth and gums on the other hand, the expansion that occurred in the size of the most important tank from 5 (Laplace chamber) to 27 liters. |  |

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| **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)* |  |

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| **Reviewer Details:** | |
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| Department, University & Country | **College of Dentistry, University of Basrah, Iraq** |