



10 September 2014

PART 1:

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2014_BJAST_13003
Title of the Manuscript:	Development of a chewing bench for testing dental materials: first stage
Type of article	Original Research Article

Dear editor and reviewers,

We have considered all the comments and have taken into account all the raised points. Efforts have been made to improve all the manuscript sections. In the revised manuscript, changes have been highlighted by colored texts (yellow color for the newer corrections in the manuscript). In addition, the whole manuscript has been revised.

The chewing simulator device presented in this work is based upon a new concept of the simultaneous and systematic presence of mechanical, chemical and thermal factors, and the ability to recover the liquid media used during the chewing cycles to be analyzed for traces of eluted material, for which reason, the **French national agency of health products and drug security (ANSM Agence Nationale de Sécurité du Médicament et des produits de santé)** is financing this ambitious project, as it would shade important light on the eluted substances in the oral cavity, and their potential toxic effects.

PART 2:

Original comments of the reviewer	Reply by the author(s)	Changes done on page number and line number
Unfortunately, many points of criticism still remain. The main issue is related to the fact that further validation of the method is still needed to show that it indeed serves its intended use.	Since the chewing bench is still under development, only the concept is being presented, based on a validated scientific computer model.	
Although the authors answered some of the questions related in the previous review, not enough information is presented or not in a consistent manner (e.g. references not given): Velocity of each cycle	Velocity of each cycle descent speed is 33 mm/s - 1.1 Hz as calculated according to the trajectory and motors used (Heitze 2006)	The phrase " According to the trajectory and motors used, the velocity of each cycle descent speed would be 33 mm/s at 1.1 Hz as calculated [15], and the time to simulate 20,000 cycles correspond to one month of clinical service [24] " was added to lines 164,165,166 and the corresponding reference [24] was added to the reference list
Time needed to simulate an in vivo condition is mentioned in the review but not included in the text and no references are given to support the estimation.	Time to simulate 20,000 cycles correspond to one month of clinical service as calculated according to literature (Heydecke 2006)	
Periodontal ligament is not simulated	Periodontal ligament simulation could be easily acquired through the use of the rubber sockets as those present in the Zurich wear simulator (Heitze 2006)	



A few problems in the use of English are still observed.	Further revision of the English was done and the work will be further reviewed by a native English speaker prior to submission, in case of acceptance, because of cost of the translation.	Line 31 "which accelerates" was replaced by "responsible for" Line 35 "and" was replaced by "as well as" Line 58 "the" was added Line 193 "and" was replaced by "for" Line 197 "on" was replaced by "at" Line 212 the word "instant" was removed, and an "s" was added to solutions
Figures are still not self-explanatory.	Detailed legends were added to the figures to provide more explanation	Detailed legends were added to figure 3 page 5, and Figure 5 page 9
Results (even when preliminary) must be presented to validate the method before publication.	No results have yet been obtained, since the chewing simulator is still under development, the paper discusses the concept of the new simulator.	

References

- Heintze S.D. How to qualify and validate wear simulation devices and methods. Dent Mater. 2006; 22(8),712-34
- Heydecke G1, Butz F, Binder JR, Strub JR. Material characteristics of a novel shrinkage-free ZrSiO(4) ceramic for the fabrication of posterior crowns. Dent Mater. 2007 ;23: 785-91.