

## عنوان مقاله:

Galvanic Corrosion among Different Combination of Orthodontic Archwires and Stainless Steel Brackets

## محل انتشار:

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## نویسندگان:

Farzin Heravi - *Dental Materials Research Center, Department of Orthodontics, School of Dentistry, Mashhad University of Medical Sciences, Mashhad, Iran*

Nima Mokhber - *Department of Orthodontics, Academic Center of Education, Culture and Research, School of Dentistry, Mashhad University of Medical Sciences, Mashhad, Iran*

Elnaz Shayan - *Department of Endodontics, School of Dentistry, Mashhad University of Medical Sciences, Mashhad, Iran*

## خلاصه مقاله:

Introduction: The aim of this study was to assess the galvanic behavior of different bracket and archwire combinations that are commonly used in orthodontic treatments. Methods: Three types of orthodontic archwires with a diameter of 0.016×0.022 inch and 80 standard edgewise maxillary central incisor brackets were selected. Three groups consisted of different wire-bracket couples and one group was just brackets as a control group. Each group had five samples. Four brackets were then connected to each wire by elastic bands made from electrochemically neutral material. The samples were immersed into capped containers of Fusayama-Meyer artificial saliva. After six weeks, the released nickel ions were quantified via ion absorption technique. The mean and the standard deviation of all four groups were calculated and the data were compared together with Kruskal-Wallis non-parametric statistical test. Results: The highest concentration of released nickel ions was for bracket+ steel archwire and the least for the bracket without archwire. Conclusion: There were not significant differences among experimental groups, so it could be concluded that galvanic corrosion would not be a serious consideration through orthodontic treatment.

## کلمات کلیدی:

artificial saliva, bracket, galvanic corrosion, orthodontic archwire

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