

Physical and Biological Evaluation of Light Cured Versus Chemically Cured Tricalcium Silicate Cements: An in Vitro Study

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بسم الله الرحمن الرحيم

**"قالوا سبحانك لا علم لنا إلا ما
علمتنا إنك أنت العليم الحكيم"**

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Dedicated to

Soul of My Dad

Who is missing by his body but always present by his soul, to whom I owe everything, I am grateful for being him my life mentor, my friend, my hero and he simply being there every time I needed to him.

My Mom

Who supported and inspired me in every possible way and the one who raised me to be a hard worker and always encouraged me. I hope I had made you proud.

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My support system and backbone.

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List of abbreviations

Abbreviation	Explanation
HCSCs	Hydraulic Calcium Silicate Cements
MTA	Mineral Trioxide Aggregate
OPC	Ordinary Portland Cement
CaO	Calcium Oxide
SiO₂	Silicon dioxide
Al₂O₃	Alumina
ESEM	Environmental Scanning Electron Microscopy
EDX	Energy dispersive X ray
XRD	X-ray Diffraction
UDMA	Urethane Dimethacrylate

Bis GMA	Bisphenol A-glycidyl methacrylate
TriEDMA /TEGDMA	Triethylene glycol dimethacrylate
HEMA	2- Hydroxyethyl methacrylate
PEGDMA	Polyethylene glycol dimethacrylate
DSPP	Dentine sialophosphoprotein
HDPCs	Human dental pulp cells
a-MEM	a-minimum essential medium
DMP-1	dentine matrix protein-1
CSH	Calcium Silicate Hydrate
pH	Power pf Hydrogen
ICP-OES	Inductively coupled plasma optical emission spectrometry
