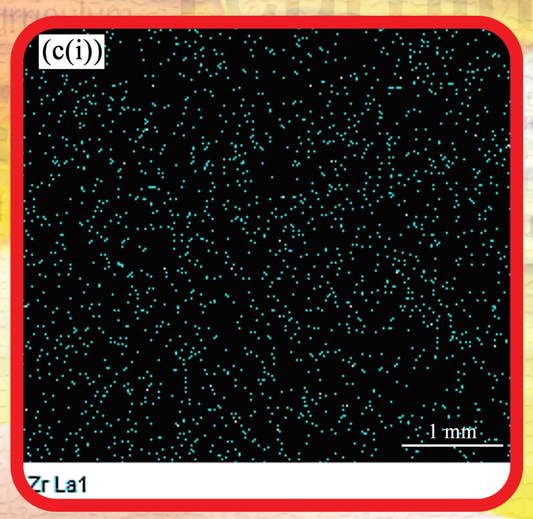
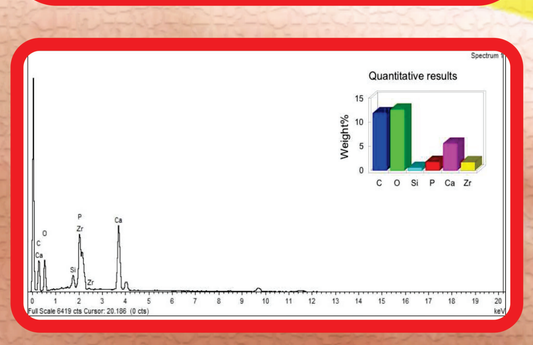
Researchers:

ASSOC. PROF. DR. WAN ZARIPAH WAN BAKAR
Professor Dr. Ismail Ab. Rahman
Nor Ainon Maziah Ghazali
Dr. Arbaz Sajjad
Assoc. Prof. Dr. Dasmawati Mohammad
Assoc. Prof. Dr. Thirumulu Ponnuraj Kannan

GiZiDent (GIC-NanoZr-Si-HA Hybrid Material for Dental Application)

▶ PATENT APPLICATION IN PROGRESS
▶ PATENT SEARCH: NOVEL, INVENTIVE & INDUSTRIAL APPLICABLE





Introduction

GiZiDent is a modified conventional glass ionomer cement (GIC), a type of tooth-colored restorative material widely used in dentistry globally.

Problem statement

Conventional GIC in the market however has limited use due to its relatively inferior mechanical and aesthetics properties that limits their usage.

Inventiveness and Novelty

GiZiDent was formulated by incorporating nanoZrO_2-HA-SiO_2 compound with special technique and specific ratios into conventional GIC. The hybrid of nanoZrO_2-HA-SiO_2 homogenously dispersed throughout this new invention of GIC.

Intellectual Property Status

Patent application in progress.
Patent Search: Novel, Inventive & Industrial Applicable.

Usefulness and Application

GiZiDent showed significant improvements of physical, mechanical and aesthetic properties compared with conventional GIC. It can be used widely as a restorative dental material in high stress bearing areas, as core build-up, as aesthetics anterior restoration and in Atraumatic Restorative Treatment (ART).

Status of Invention

Prototype

Commercial Potential

About 2.3 billion people worldwide (WHO, 2015) and 9 out of 10 Malaysian particularly had experienced of dental caries. Prevalence of untreated caries was 44.31% out of total oral conditions (Global Burden of Oral Condition (GBD) study, 2010). GiZiDent provides as a good option to treat the dental caries.

Potential Partners

Dental companies and health based industry.

Knowledge Management

- Research University grant (RUI 1001/PPSG/812164)
- Publications : 1 ISI, 3 SCOPUS
- Students : 1 PhD students (ongoing), 1 MSc student (graduated) and 2 undergraduates elective students (finishing and graduated)

Contact Person:

ASSOC. PROF. DR. WAN ZARIPAH WAN BAKAR
School of Dental Sciences, Health Campus
Universiti Sains Malaysia, Kelantan, MALAYSIA
Tel: +609-767 5833 **Fax:** +609-767 5505 **E-mail:** *wzaripah@usm.my*