# CHAPTER V
# CONCLUSIONS AND RECOMENDATIONS

Nanocomposites preparation between ammonium-modified clay and dimethacrylate dental resin is one way for enhancement mechanical properties. Prepared dental nanocomposites show the highest diametral tensile strength than the conventional composites with silanized silica and with CHA but they still show lower microhardness than conventional ones. The surface microhardness of dental composites depend on the percent content of filler loading into resin. For dental nanocomposite, the optimum percent content of modified clay is 1 wt%. At higher percent content of clay, the color of resin turns to grayish-yellow. This is not the acceptance for tooth-color filling material. Silanized silica can provide high microhardness and esthetic for dental nanocomposites. Calciumhydroxyapatite is the attractive filler for dental composites due to its biocompatibility. The CHA filled dental composites shows relatively high DTS but low VHN. Further work about the hybrid of these three fillers in dental resin composite to get the superior properties for dental restorative material has high possibility to success for competition with the commercial ones.