

**THE EFFECT OF DIFFERENT CONCENTRATION OF
SIMULATED BODY FLUID (SBF) ON COMMERCIAL PORTLAND
CEMENT-WOLLASTONITE COMPOSITE SCAFFOLD**

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ABSTRACT

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Nowadays, bone tissue engineering application by using bioactive material are growing widely. There are many SBF concentration that has been used for tissue engineering but specifically is normal SBF (c-SBF) because it has the same concentration as our blood plasma. The objective of this study is about to produce Portland cement-wollastonite scaffold and immerse in SBF solution. Secondly, to observed and analyze Portland cement wollastonite composite sample immersed in different concentration of SBF by using FTIR. The different concentration of SBF that has been used is c-SBF and 1.5 SBF. The FTIR was used to characterize the dried specimen after soaking in SBF solution. The result showed the possibility formation of apatite layer on the surface of the composite sample for both SBF concentrations when analyzed by using FTIR based on the band at 3261 cm^{-1} (Si-OH), 1412 cm^{-1} (CO_3^{2-}), 1014 cm^{-1} (Si-O-Si), 873 cm^{-1} (CO_3^{2-}), 588 cm^{-1} (P-O) on FTIR spectra.

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