

## DAFTAR ISI

HALAMAN PENGESAHAN .....	ii
KATA PENGANTAR .....	iii
DAFTAR ISI .....	iv
DAFTAR GAMBAR .....	vi
DAFTAR TABEL .....	vii
DAFTAR LAMPIRAN .....	viii
DAFTAR SINGKATAN .....	ix
ABSTRAK .....	x
<i>ABSTRACT</i> .....	xi
BAB I PENDAHULUAN .....	12
I.1 Latar Belakang .....	12
I.2 Tujuan Penelitian .....	14
BAB II TINJAUAN PUSTAKA .....	15
II.1 Gigi Berlubang .....	15
II.2 Komposit Resin Gigi .....	15
II.3 Resin Polimer UDMA/TEGDMA .....	16
II.4 <i>Glass Powder</i> .....	17
II.5 Beta-Trikalsium Fosfat ( $\beta$ -TCP) .....	18
II.6 Metode Sol-Gel .....	19
II.7 <i>Curing</i> .....	19
II.8 Reaksi Polimerisasi .....	20
II.9 Identifikasi dan Karakterisasi .....	23
II.9.1 <i>Fourier Transform InfraRed Spectroscopy</i> (FTIR) .....	23
II.9.2 <i>X-ray diffraction</i> (XRD) .....	24
II.9.3 <i>Particle Size Analyzer</i> (PSA) .....	26
II.9.4 <i>Universal Testing Machine</i> (UTM) .....	27
II.9.5 <i>Field Emission Scanning Electron Microscopy Energy-Dispersive X-ray</i> (FESEM-EDX) .....	29
BAB III METODE PENELITIAN .....	31
III.1 Bahan dan Alat Penelitian .....	31
III.1.1 Bahan Penelitian .....	31
III.1.2 Alat Penelitian .....	32
III.2 Jalan Penelitian .....	32
III.2.1 Sintesis $\beta$ -TCP .....	32
III.2.2 Pembuatan komposit $\beta$ -TCP/Resin .....	33
III.2.3 Karakterisasi dan Pengujian .....	34
BAB IV HASIL DAN PEMBAHASAN .....	36
IV.1 Sintesis $\beta$ -TCP .....	36
IV.2 Karakterisasi $\beta$ -TCP .....	38
IV.2.1 <i>Fourier Transform InfraRed Spectroscopy</i> (FTIR) .....	38
IV.2.2 <i>X-ray diffraction</i> (XRD) .....	39
IV.2.3 <i>Particle Size Analyzer</i> (PSA) .....	41
IV.3 Pembuatan Komposit $\beta$ -TCP/Resin .....	42
IV.4 Karakterisasi Komposit $\beta$ -TCP/Resin .....	42

IV.4.1	<i>Fourrier Transform InfraRed Spectroscopy (FTIR)</i>	42
IV.4.2	<i>Universal testing machine (UTM)</i>	48
IV.4.3	<i>Field Emission Scanning Electron Microscopy Energy-Dispersive X-ray (FESEM-EDX)</i>	50
BAB V	PENUTUP	56
V.1	Kesimpulan	56
V.2	Saran	56
DAFTAR	PUSTAKA	57
LAMPIRAN		66