



## DAFTAR ISI

	Halaman
PRAKATA	iii
PUBLIKASI DAN SEMINAR	v
DAFTAR ISI	vi
DAFTAR GAMBAR	x
DAFTAR TABEL	xix
INTISARI	xx
ABSTRACT	xxi
<b>BAB I PENDAHULUAN</b>	
I.1 Latar Belakang .....	1
I.2 Tujuan Penelitian .....	6
I.3 Manfaat Penelitian .....	6
<b>BAB II TINJAUAN PUSTAKA DAN PERUMUSAN HIPOTESIS</b>	
II1 Tinjauan Pustaka .....	7
II.1.1 Tanaman Vanilin .....	7
II.1.2 Kemosensor Anion .....	8
II.1.3. Mekanisme PET Dan ICT .....	10
II.1.4 Interaksi Sensor Dengan Anion .....	15
II.1.5 Sensor warna .....	19
II.1.6 Sensor fluorezens .....	21
II.1.7 Rasio Stoikiometri Kompleks <i>Host-Guest</i> Dan Selektifitas Sensor .....	22
II.1.8 Sintesis Senyawa Hetrosiklik Dari Gugus Aldehid .....	25
II.1.9 Sintesis Senyawa Turunan Azo .....	30
II.1.10 Efek Gugus Kromofor .....	30
II.1.11 Rekognisi Anion .....	32

II.1.12	Senyawa Sensor Dari Vanilin .....	36
II.2	Perumusan Hipotesis Dan Rancangan Penelitian .....	37
II.2.1	Perumusan Hipotesis .....	38
II.2.2	Rancangan Penelitian .....	39
<b>BAB III</b>	<b>METODE PENELITIAN</b>	
III.1	Bahan dan Alat Penelitian .....	41
III.1.1	Alat penelitian .....	41
III.1.2	Bahan penelitian .....	41
III.2	Sintesis Senyawa Target .....	41
III.2.1	Sintesis 5-nitrovanilin (4-hidroksi-3-metoksi-5-nitrobenzaldehyd).....	41
III.2.2	Sintesis Kalkon (( <i>E</i> )-3-(hidroksi-3-metoksifenil)-1-(2-hidroksifenil)prop-2-en-1-on) .....	42
III.2.3	Sintesis 4-(1 <i>H</i> -benzo[ <i>d</i> ]imidazol-2-yl)-2-metoksifenol ( <b>S1</b> ) .....	42
III.2.4	Sintesis 4-(1 <i>H</i> -benzo[ <i>d</i> ]imidazol-2-yl)-2-metoksi-6-nitrofenol ( <b>S2</b> ) .....	42
III.2.5	Sintesis 4-(benzo[ <i>d</i> ]oksazol-2-yl)-2-metoksifenol ( <b>S3</b> ) .....	43
III.2.6	Sintesis 4-(benzo[ <i>d</i> ]oksazol-2-yl)-2-metoksi-6-nitrofenol ( <b>S4</b> ) .	43
III.2.7	Sintesis ( <i>E</i> )-4-(1 <i>H</i> -benzo[ <i>d</i> ]imidazol-2-yl)metoksi-6-(fenildiazenil)fenol ( <b>S5</b> ) .....	43
III.2.8	Sintesis ( <i>E</i> )-4-(1 <i>H</i> -benzo[ <i>d</i> ]imidazol-2-yl)-metoksi-6-((4-nitrofenil)diazenil)fenol ( <b>S6</b> ) .....	44
III.2.9	Sintesis ( <i>E</i> )-4-(benzo[ <i>d</i> ]oksazol-2-yl)-2-metoksi-6-(fenildiazenil)fenol ( <b>S7</b> ) .....	44
III.2.10	Sintesis 2-(4-hidroksi-3-metoksisikloheksil)-4 <i>H</i> -kromen-4-on ( <b>S8</b> ) .....	45
III.3	Uji Kemosensor Anion .....	45
III.3.1	Uji solvatokromik .....	45
III.3.2	Uji ionokromik .....	45

III.3.3 Analisis Interaksi <i>Host-Guest</i> .....	46
<b>BAB IV HASIL DAN PEMBAHASAN</b>	
IV.1. Sintesis 4-hidroksi-3-metoksi-5-nitrobenzaldehyd (5-nitrovanilin) .....	48
IV.2. Sintesis ( <i>E</i> )-3-(hidroksi-3-metoksifenil)-1-(2-hidroksifenil)prop-2-en-1-on (kalkon) .....	50
IV.3. Sensor 1: 4-(1 <i>H</i> -benzo[ <i>d</i> ]imidazol-2-il)-2-metoksifenol ( <b>S1</b> ) ....	52
IV.3.1 Sintesis <b>S1</b> .....	52
IV.3.2 Uji Kemosensor Anion .....	56
IV.3.3 Analisis Interaksi <i>host-guest</i> .....	60
IV.4 Sensor 2: 4-(1 <i>H</i> -benzo[ <i>d</i> ]imidazole-2-yl)-2-methoxy -6-nitrophenol ( <b>S2</b> ) .....	62
IV.4.1 Sintesis <b>S2</b> .....	62
IV.4.2 Uji Kemosensor Anion .....	65
IV.4.3 Analisis Interaksi <i>host-guest</i> .....	69
IV.5 Sensor 3: 4-(1 <i>H</i> -benzo[ <i>d</i> ]oksazol-2-il)-2-metoksifenol ( <b>S3</b> ) .....	72
IV.5.1 Sintesis <b>S3</b> .....	72
IV.5.2 Uji Kemosensor Anion .....	75
IV.5.3 Analisis Interaksi <i>host-guest</i> .....	80
IV.6 Sensor 4: 4-(1 <i>H</i> -benzo[ <i>d</i> ]oksazol-2-il)-2-metoksi -6-nitrofenol ( <b>S4</b> ) .....	82
IV.6.1 Sintesis <b>S4</b> .....	82
IV.6.2 Uji Kemosensor Anion .....	85
IV.6.3 Analisis Interaksi <i>host-guest</i> .....	88
IV.7 Sensor 5 : ( <i>E</i> )-4-(1 <i>H</i> -benzo[ <i>d</i> ]imidazole-2-yl)-2-methoxy-6-(phenildiazenyl)fenol ( <b>S5</b> ) .....	90
IV.7.1 Sintesis <b>S5</b> .....	90
IV.7.2 Uji Kemosensor Anion .....	94
IV.7.3 Analisis Interaksi <i>host-guest</i> .....	98



IV.8 Sensor 6 (E)-4-(1H-benzo[d]imidazol-2-il)-2-metoksi-6-((4-nitrofenil)diazenil)fenol ( <b>S6</b> ) .....	100
IV.8.1 Sintesi <b>S6</b> .....	100
IV.8.2 Uji Kemosensor Anion .....	104
IV.8.3 Analisis Interaksi <i>host-guest</i> .....	107
IV.9 Sensor 7 (E)-4-(1H-benzo[d]oxazole-2-yl)-2-methoxy-6-(phenildiazenyl)fenol ( <b>S7</b> ) .....	109
IV.9.1 Sintesis <b>S7</b> .....	109
IV.9.2 Uji Kemosensor Anion .....	112
IV.9.3 Analisis Interaksi <i>host-guest</i> .....	117
IV.10 Sensor 8 : 2-(4-hidroksi-3-metoksisikloheksil)-4H-krom-4-on ( <b>S8</b> ) .....	119
IV.10.1 Sintesis <b>S8</b> .....	119
IV.10.2 Uji Kemosensor Anion .....	122
IV.10.3 Analisis Interaksi <i>host-guest</i> .....	127
IV.11 Analisis Titrasi <i>host-guest</i> <b>S8-CN<sup>-</sup></b> dengan <sup>1</sup> H-NMR .....	130
IV.12 Perbandingan Sensor-Sensor .....	131
<b>BAB V KESIMPULAN DAN SARAN</b>	
V.1. Kesimpulan .....	136
V.2. Saran-Saran .....	137
<b>DAFTAR PUSTAKA</b>	138
<b>LAMPIRAN-LAMPIRAN</b>	