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


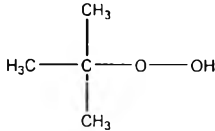





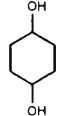
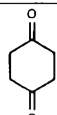


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
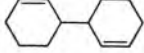
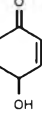
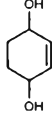



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## APPENDICES

### Appendix A Products Identification by GC-MS in Cyclohexene Epoxidation

No.	Compound	Structure
1.	Cyclohexene oxide	
2.	2-Cyclohexen-1-ol	
3.	2-Cyclohexen-1-one	
4.	<i>tert</i> -Butyl hydroperoxide	
5.	Cyclohexanone	
6.	Cyclohexanol	
7.	1,3-Cyclohexadiene	
8.	1,4-Cyclohexadiene	
9.	2-Hydroxy-1-cyclohexanone	
10.	2-Cyclohexen-1,4-diol	
11.	2-Cyclohexen-1,4-dione	
12.	2,3-Epoxy-cyclohexanone	
13.	1,3-Cyclohexanediol	

No.	Compound	Structure
14.	1,2-cyclohexanediol	
15.	3,3'-Bicyclohexenyl	
16.	4-Hydroxy-2-cyclohexen-1-one	
17.	<i>trans</i> -1,4-Cyclohexanediol	
18.	1,2,3-Cyclohexanetriol	
19.	7-Oxabicyclo-heptan-2-ol	
20.	Hexanedial	

**Appendix B Results of Percent Concentration of TiO<sub>2</sub> and RuO<sub>2</sub> of RuO<sub>2</sub>/TiO<sub>2</sub> (IWI) and RuO<sub>2</sub>/TiO<sub>2</sub> (SSSG) by XRF Analysis**

<b>Catalyst</b>	<b>Cycle</b>	<b>Compound</b>	<b>Concentration (%)</b>
RuO <sub>2</sub> /TiO <sub>2</sub> (IWI)	fresh	TiO <sub>2</sub>	98.79
		RuO <sub>2</sub>	1.21
	1 <sup>st</sup>	TiO <sub>2</sub>	98.99
		RuO <sub>2</sub>	1.00
	2 <sup>nd</sup>	TiO <sub>2</sub>	99.36
		RuO <sub>2</sub>	0.64
RuO <sub>2</sub> /TiO <sub>2</sub> (SSSG)	fresh	TiO <sub>2</sub>	99.29
		RuO <sub>2</sub>	0.71
	1 <sup>st</sup>	TiO <sub>2</sub>	99.30
		RuO <sub>2</sub>	0.70
	2 <sup>nd</sup>	TiO <sub>2</sub>	99.31
		RuO <sub>2</sub>	0.69



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