

# 结晶学与矿物学

## 实习报告书

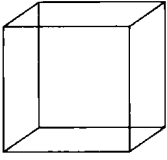
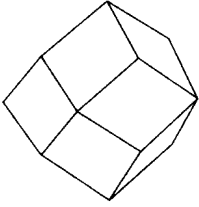
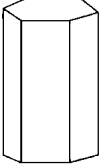
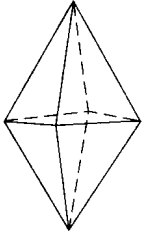
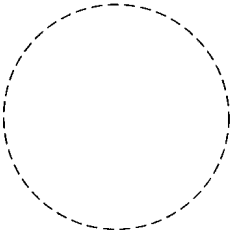
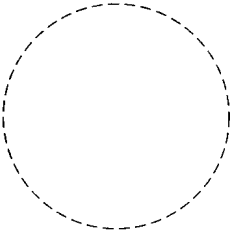
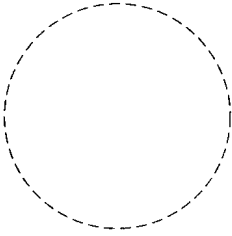
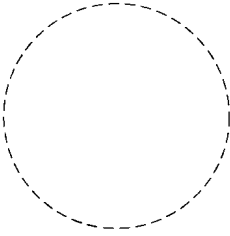
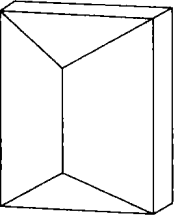
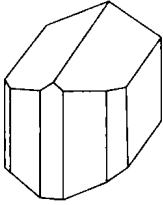
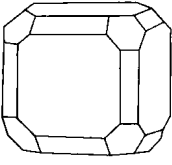
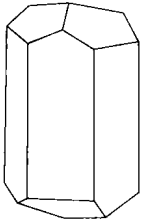
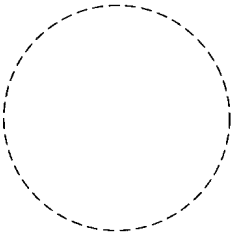
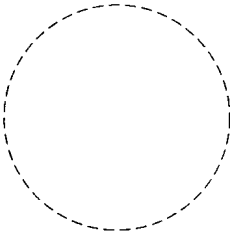
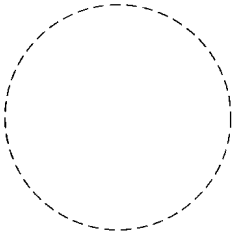
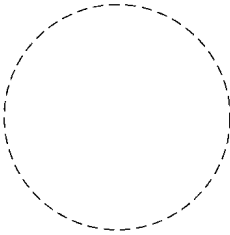
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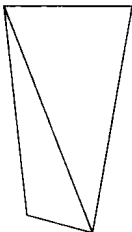
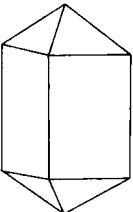
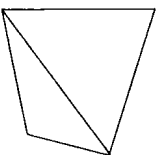
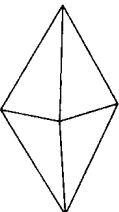
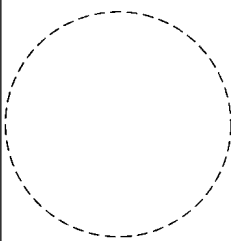
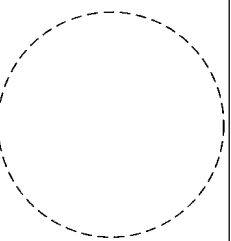
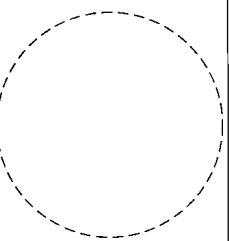
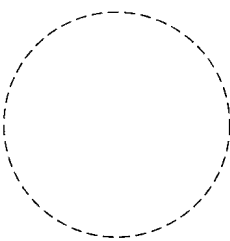
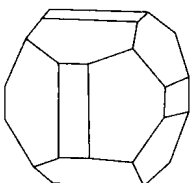
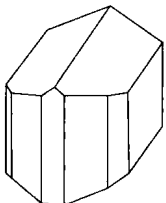
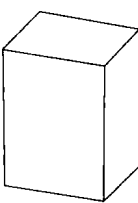
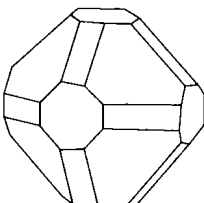
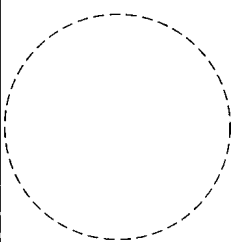
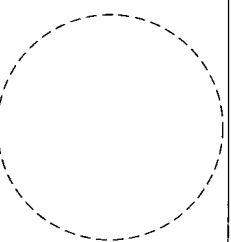
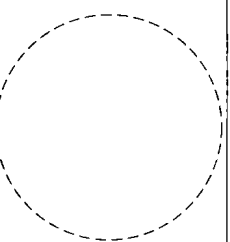
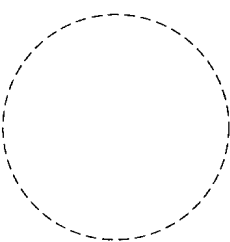
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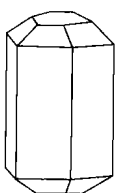
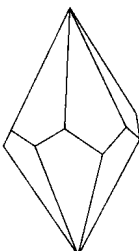
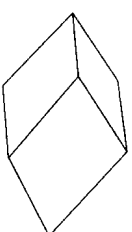
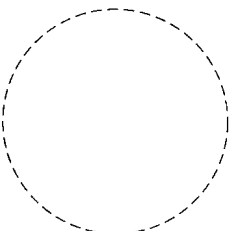
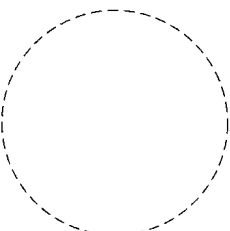
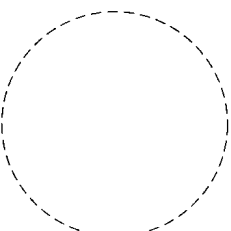
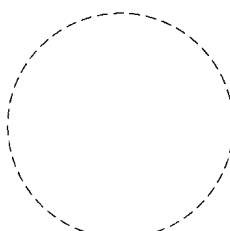
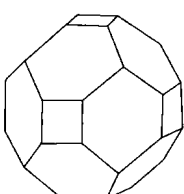
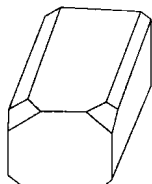
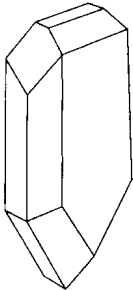
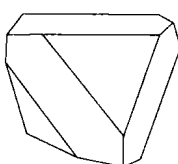
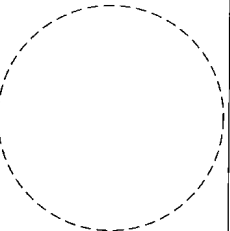
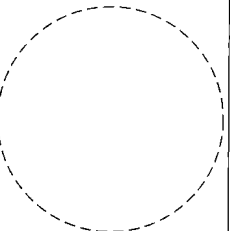
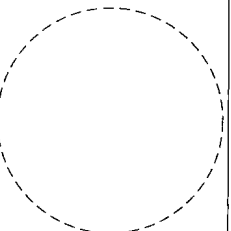
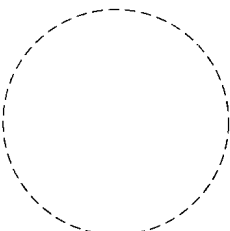
## 实习一 晶体的极射赤平投影

模型号	1-1	1-2	1-3	1-4
矿物名称	石盐、萤石	石榴子石	绿柱石	锆石
模型图形				
极射赤平投影				
模型号	1-5	1-6	1-7	1-8
矿物名称	十字石	普通角闪石	萤石	方解石
模型图形				
极射赤平投影				

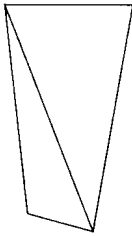
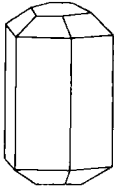
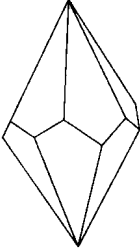
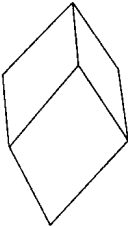
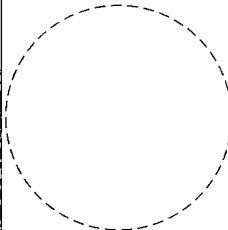
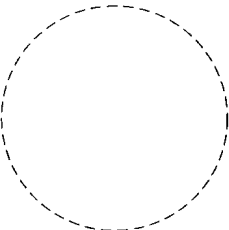
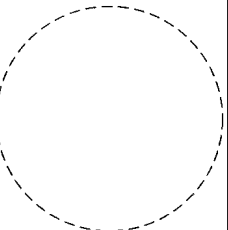
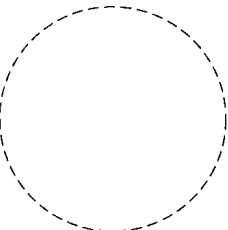
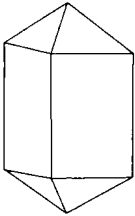
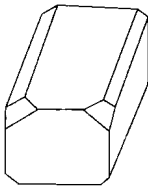
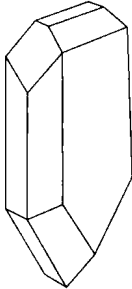
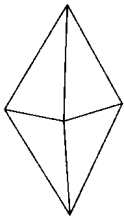
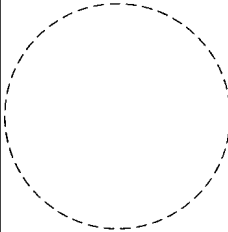
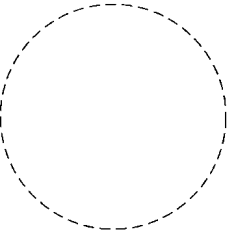
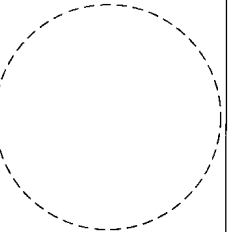
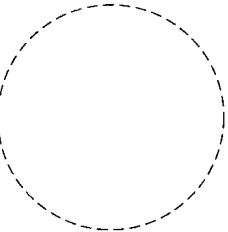
## 实习二 寻找对称要素和确定对称型 (一)

模型号	2-1	2-2	2-3	2-4
矿物名称	黄铜矿	锆石	闪锌矿	自然硫
模型图形				
对称型				
晶族、晶系				
极射赤平投影				
模型号	2-5	2-6	2-7	2-8
矿物名称	黄铁矿	普通角闪石	钠长石	方铅矿
模型图形				
对称型				
晶族、晶系				
极射赤平投影				

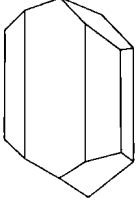
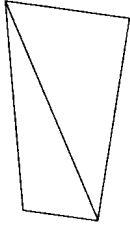
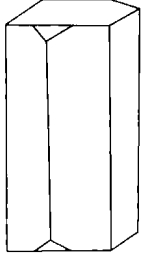
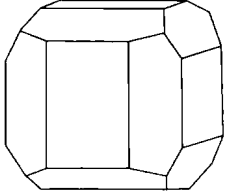
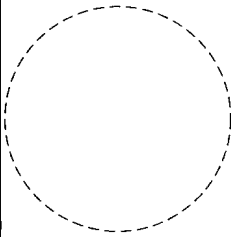
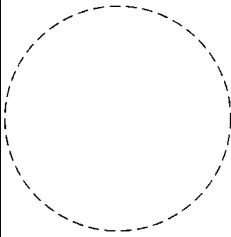
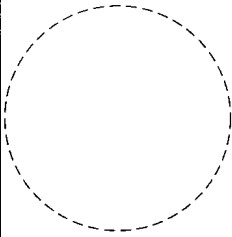
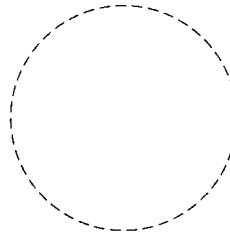
### 实习三 寻找对称要素和确定对称型 (二)

模型号	3-1	3-2	3-3	3-4
矿物名称	赤铁矿、方解石	绿柱石	$\beta$ -石英	方解石
模型图形				
对称型				
晶族、晶系				
极射赤平投影				
模型号	3-5	3-6	3-7	3-8
矿物名称	金刚石	正长石	异极矿	毒铁矿
模型图形				
对称型				
晶族、晶系				
极射赤平投影				

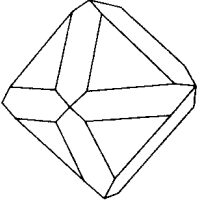
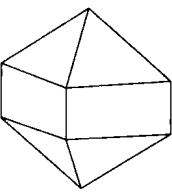
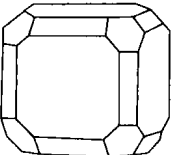

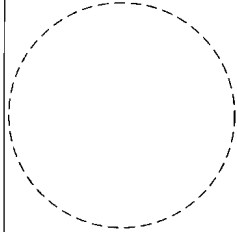
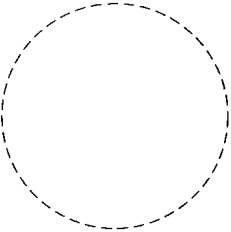
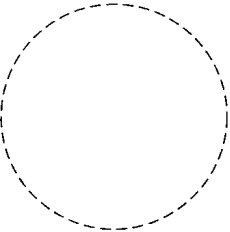
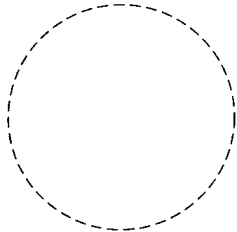
## 实习四 利用对称要素组合定理寻找对称要素

模型号	4-1	4-2	4-3	4-4
矿物名称	黄铁矿	绿柱石	$\beta$ -石英	方解石
模型图形				
对称型				
晶族、晶系				
极射赤平投影				
模型号	4-5	4-6	4-7	4-8
矿物名称	锆石	正长石	异极矿	自然硫
模型图形				
对称型				
晶族、晶系				
极射赤平投影				

## 实习五 晶体定向及晶面符号 (三轴)

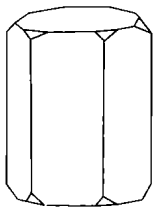
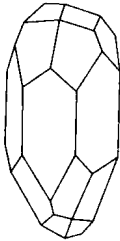
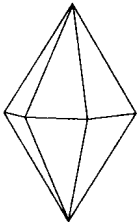
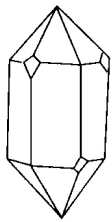
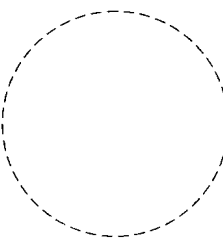
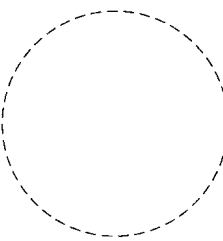
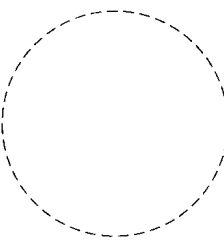
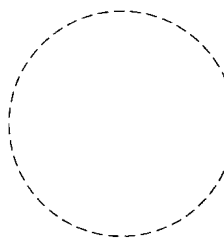
模型号	5-1	5-2	5-3	5-4
矿物名称	辉石	泻利盐	十字石	黄铁矿
模型图形				
对称型				
晶族、晶系				
国际符号				
定向	定向原则			
	晶体常数特点			
晶面符号				
极射赤平投影				

## 实习五 晶体定向及晶面符号 (三轴)

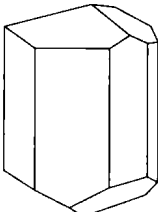
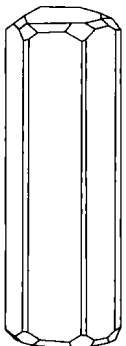
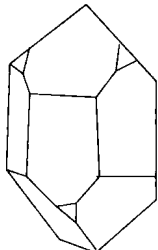
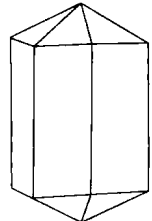
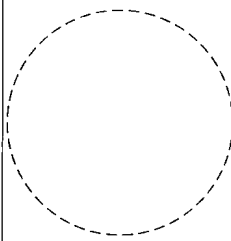
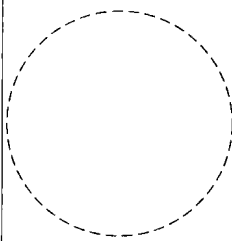
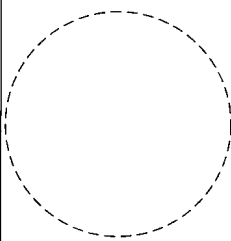
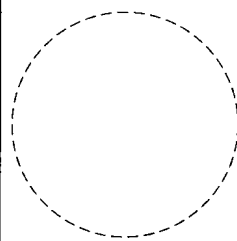
模型号	5-5	5-6	5-7	5-8
矿物名称	金刚石、磁铁矿	锆石	萤石	石膏
模型图形				
对称型				
晶族、晶系				
国际符号				
定向	定向原则			
	晶体常数特点			
晶面符号				
极射赤平投影				



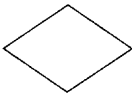
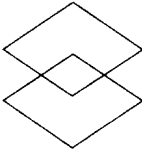
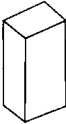

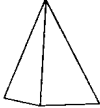
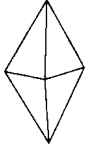
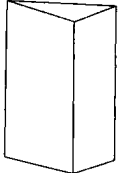




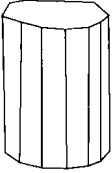
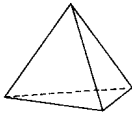

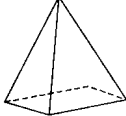
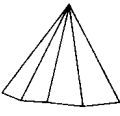
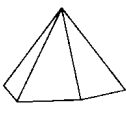
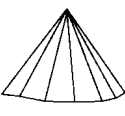
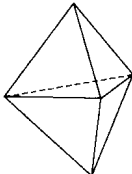
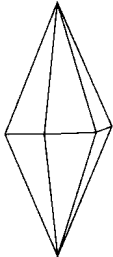
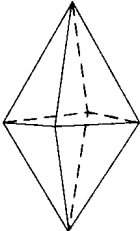
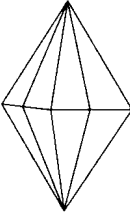
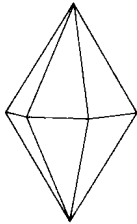
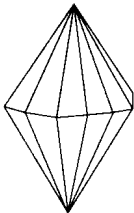
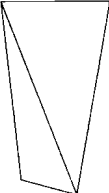
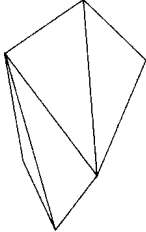
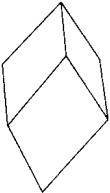
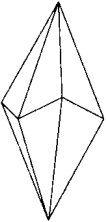
## 实习六 晶体定向及晶面符号（四轴）

模型号	6-1	6-2	6-3	6-4
矿物名称	磷灰石	方解石	$\beta$ -石英	石英
模型图形				
对称型				
晶族、晶系				
国际符号				
定向	定向原则			
	晶体常数特点			
晶面符号				
极射赤平投影				

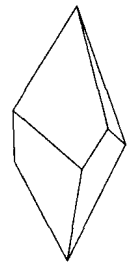
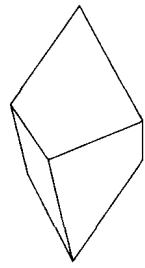
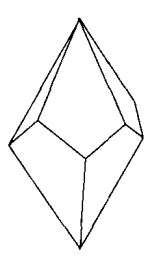
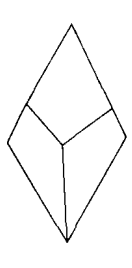
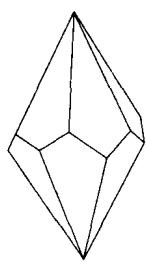
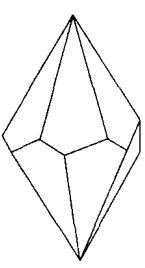
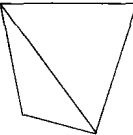
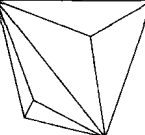
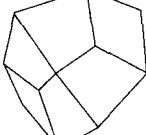
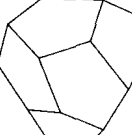
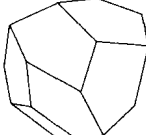
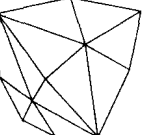
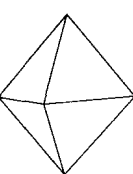
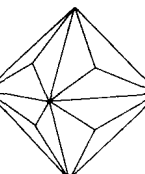
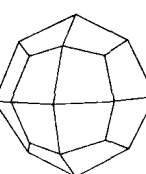
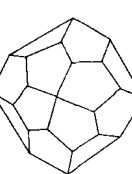
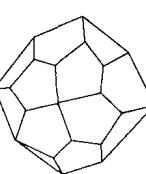
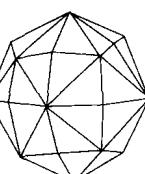
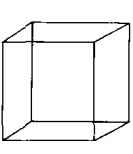
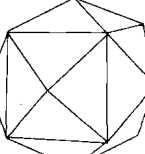
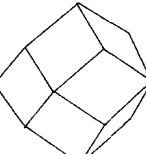
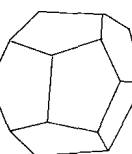
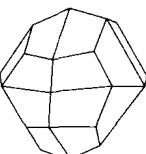
## 实习六 晶体定向及晶面符号 (四轴)

模型号	6-5	6-6	6-7	6-8
矿物名称	电气石	绿柱石	石英	石英
模型图形				
对称型				
晶族、晶系				
国际符号				
定向	定向原则			
	晶体常数特点			
晶面符号				
极射赤平投影				

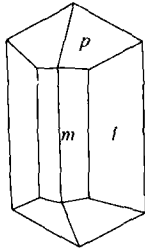
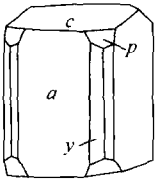
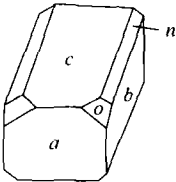
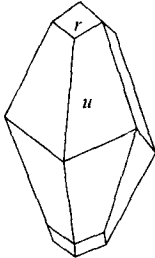
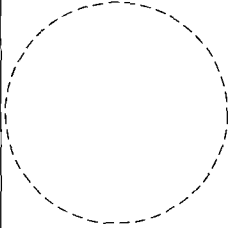
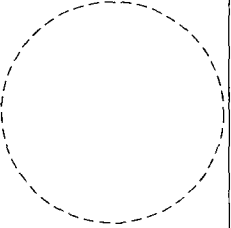
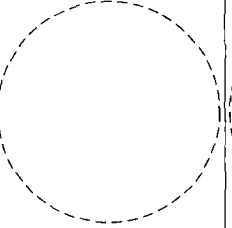
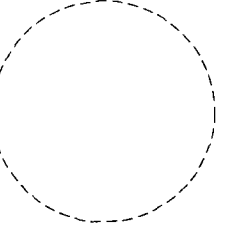
## 实习七 单形认识

模型号	7-1	7-2	7-3	7-4	7-5	7-6
模型图形						
单形名称						
模型号	7-7	7-8	7-9	7-10	7-11	7-12
模型图形						
单形名称						
模型号	7-13	7-14	7-15	7-16	7-17	7-18
模型图形						
单形名称						
模型号	7-19	7-20	7-21	7-22	7-23	7-24
模型图形						
单形名称						
模型号	7-25	7-26	7-27	7-28		
模型图形						
单形名称						

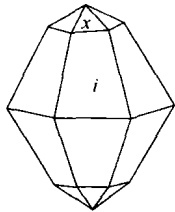
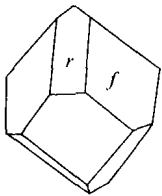
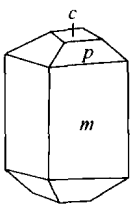
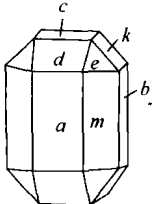
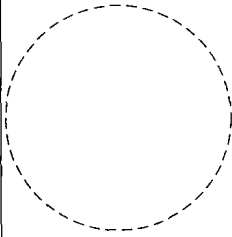
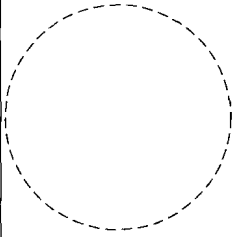
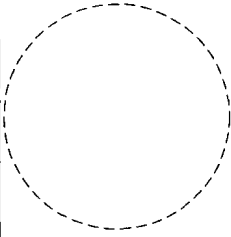
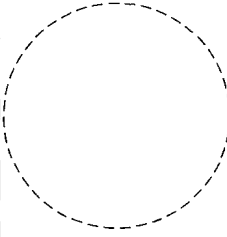
## 实习七 单形认识

模型号	7-29	7-30	7-31	7-32	7-33	7-34
模型图形						
单形名称						
模型号	7-35	7-36	7-37	7-38	7-39	7-40
模型图形						
单形名称						
模型号	7-41	7-42	7-43	7-44	7-45	7-46
模型图形						
单形名称						
模型号	7-47	7-48	7-49	7-50	7-51	
模型图形						
单形名称						

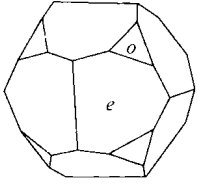
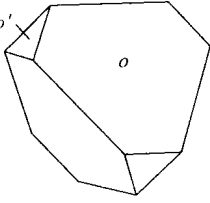
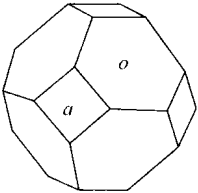
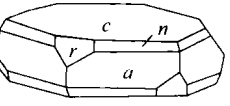
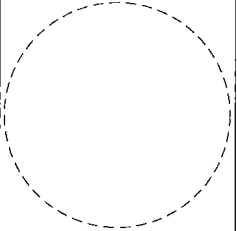
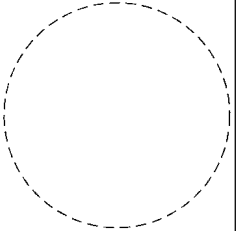
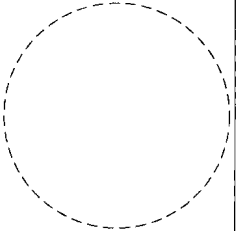
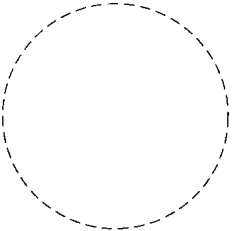
## 实习八 聚形分析 (一)

模型号	8-1			8-2			8-3			8-4		
矿物名称	黄玉			鱼眼石			正长石			方解石		
模型图形												
对称型												
晶族、晶系												
国际符号												
定向	定向原则											
	晶体常数特点											
单形数目												
聚形分析	晶面数	单形名称	单形符号	晶面数	单形名称	单形符号	晶面数	单形名称	单形符号	晶面数	单形名称	单形符号
	<i>m</i> :			<i>a</i> :			<i>a</i> :			<i>r</i> :		
	<i>p</i> :			<i>p</i> :			<i>b</i> :					
	<i>l</i> :			<i>y</i> :			<i>c</i> :					
				<i>c</i> :			<i>o</i> :					<i>u</i> :
							<i>n</i> :					
极射赤平投影												

## 实习八 聚形分析 (一)

模型号		8-5			8-6			8-7			8-8		
矿物名称					方解石			符山石			橄榄石		
模型图形													
对称型													
晶族、晶系													
国际符号													
定向	定向原则												
	晶体常数特点												
单形数目													
聚形分析		晶面数	单形名称	单形符号	晶面数	单形名称	单形符号	晶面数	单形名称	单形符号	晶面数	单形名称	单形符号
		i:  x:			r:  f:			c:  m:  p:			a: b: c: d: e: k: m:		
极射赤平投影													

## 实习九 聚形分析 (二)

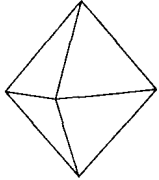
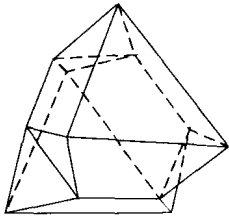
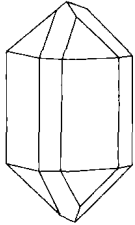
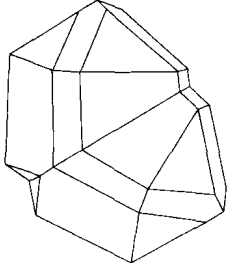
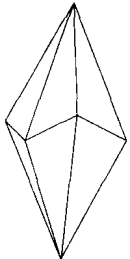
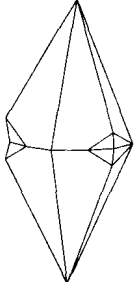
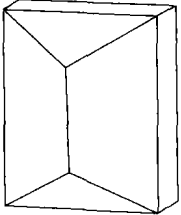
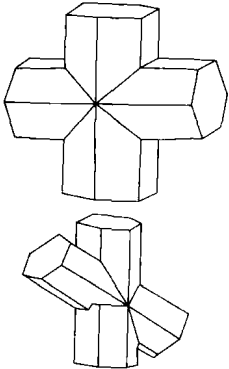
模型号		9-1			9-2			9-3			9-4		
矿物名称		黄铁矿			黝铜矿			方铅矿			刚玉		
模型图形													
对称型													
晶族、晶系													
国际符号													
定向	定向原则												
	晶体常数特点												
单形数目													
聚形分析		晶面数	单形名称	单形符号	晶面数	单形名称	单形符号	晶面数	单形名称	单形符号	晶面数	单形名称	单形符号
		$e:$			$o:$			$o:$			$a:$		
		$o:$			$o':$			$a:$			$c:$		
		$o:$			$o':$			$a:$			$n:$		
		$o:$			$o':$			$a:$			$r:$		
极射赤平投影													

## 实习九 聚形分析 (二)

模型号		9-5			9-6			9-7			9-8		
矿物名称		方硼石			黄铁矿			石榴子石			异极矿		
模型图形													
对称型													
晶族、晶系													
国际符号													
定向	定向原则												
	晶体常数特点												
单形数目													
聚形分析		晶面数	单形名称	单形符号	晶面数	单形名称	单形符号	晶面数	单形名称	单形符号	晶面数	单形名称	单形符号
		$a:$ $d:$ $o:$ $o':$			$o:$ $e:$			$d:$ $n:$			$m:$ $u:$ $y:$ $s:$ $i:$ $b:$ $c:$		
极射赤平投影													



## 实习十 双晶分析

模型号	矿物名称	单晶的形状	双 晶			
			形 状	对称型	类 型	双晶律
10-1	尖晶石					
10-2	锡石					
10-3	方解石					
10-4	十字石					
10-5	钠长石	