

X-RAY DIFFRACTION RESULTS β - SmOOH

$\frac{d}{\text{\AA}}$	$\frac{I}{I_1}$	hkl
5.609	10	(002)
5.068	3	(111)
4.004	9	(112)
3.290	100	(202)
2.867	50	(220)
2.814	15	(004)
2.557	10	(310)(222)
2.309	25	(204)
2.023	22	(400)
2.002	30	(224)(401)
1.892	9	(314)(331)
1.804	12	(332)(420)
1.722	28	(305)(422)
1.698	12	(206)(333)
1.639	7	(404)(423)
1.563	12	3 LINES
1.519	10	(424)
25-0013		

Figure 5 X-ray Diffraction Results of β -SmOOH

COMPARISON OF X-RAY RESULTS $\text{Sm}(\text{OH})_3$

$\text{Sm}(\text{OH})_3$ this work		$\text{Sm}(\text{OH})_3$ Hexagonal			$\text{Sm}(\text{OH})_3$ High Pressure Form	
$\frac{d}{\text{\AA}}$	$\frac{I}{I_1}$	$\frac{d}{\text{\AA}}$	$\frac{I}{I_1}$	hkl	$\frac{d}{\text{\AA}}$	$\frac{I}{I_1}$
5.609	80	5.54	100	(100)	7.816	25
3.296	5	3.16	70	(110)	5.566	35
3.251	60	3.03	55	(101)	3.723	80
3.084	100	2.734	15	(200)	3.363	5
2.780	20	2.183	90	(201)	3.089	40
2.423	8	2.064	15	(210)	2.852	5
2.222	70	1.821	50	(300)	2.768	25
2.099	15	1.795	65	(211)	2.583	100
1.848	35	1.575	15	(220)	2.089	30
1.824	55	1.519	7	(310)	2.057	5
1.751	8	1.400	20	(311)	1.843	45
1.599	25	1.366	10	(400)	1.819	5
1.537	6	1.284	10	(401)	1.596	15
1.415	13	1.194	10	(410)	1.592	10
1.384	6				1.548	20
1.307	8				1.534	10
					1.382	5
					1.290	10
					1.206	10
					1.204	5
25-0012						

Figure 6 Comparison of X-Ray Results of $\text{Sm}(\text{OH})_3$