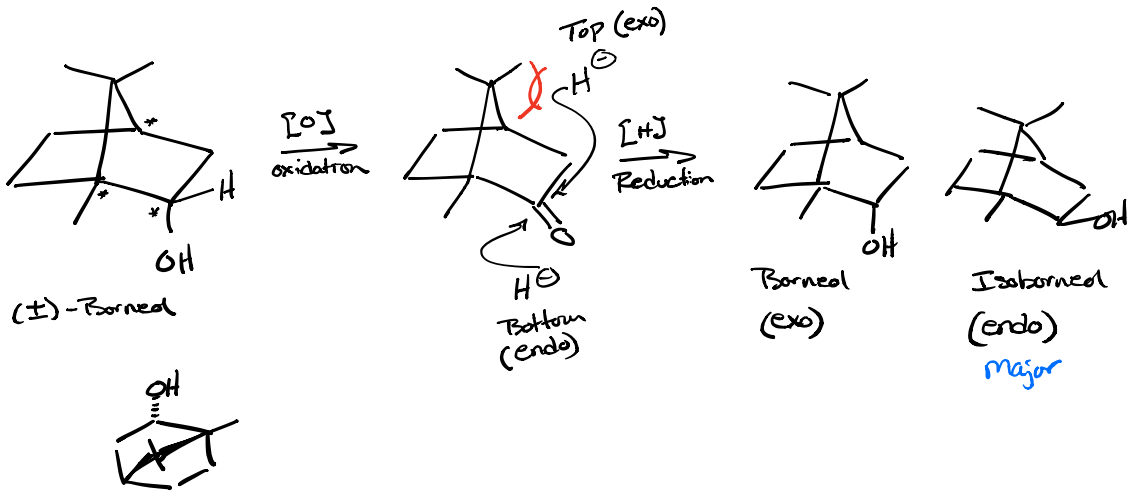
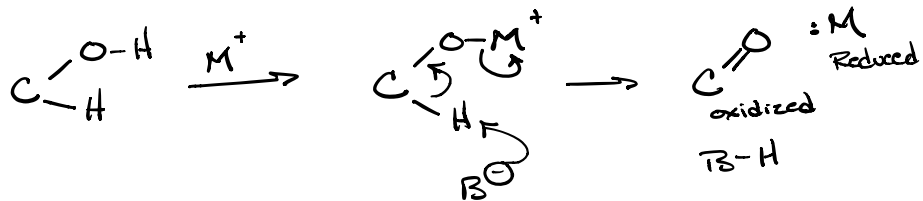


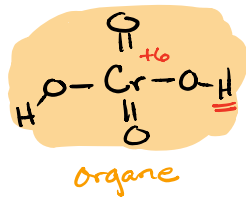
# An Oxidation Reduction Scheme



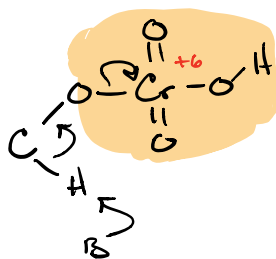
## Oxidation



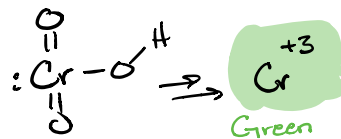
## Jones Reagent



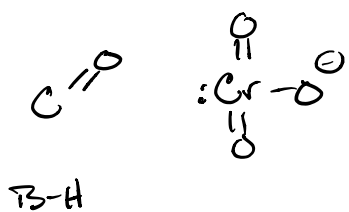
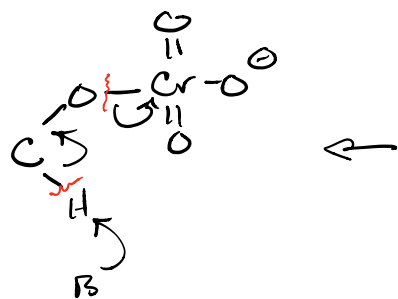
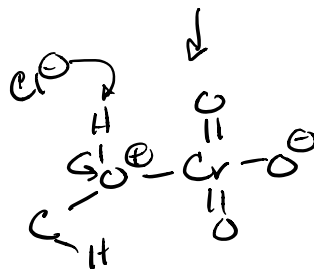
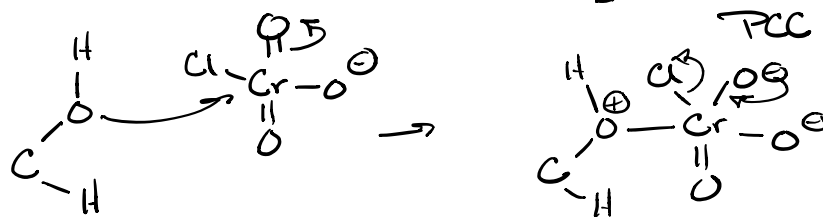
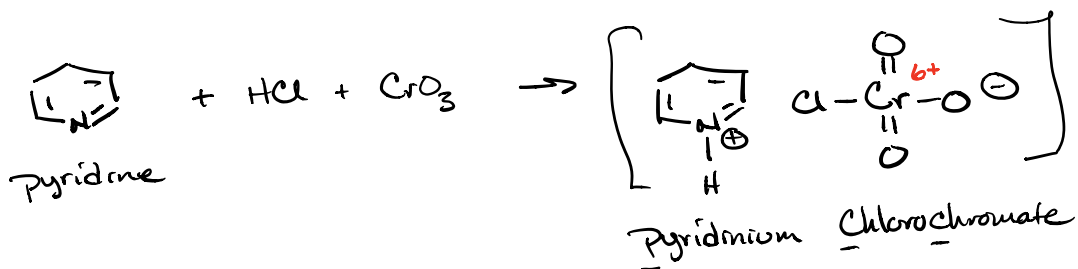
Strong Acid

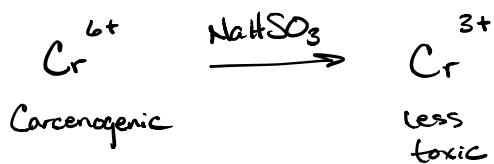
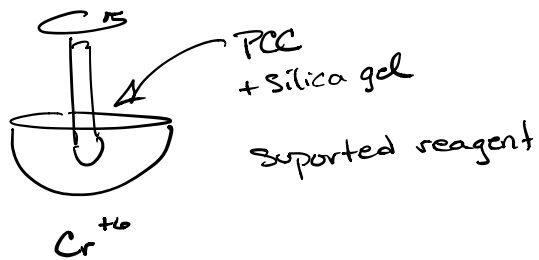


$\text{M}-\text{H}$

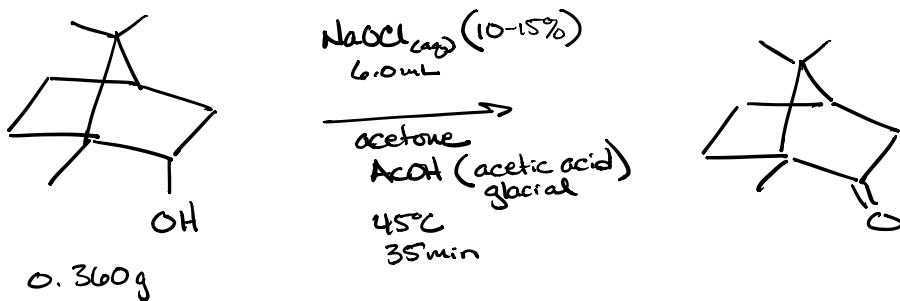


# Pyridinium Chlorochromate

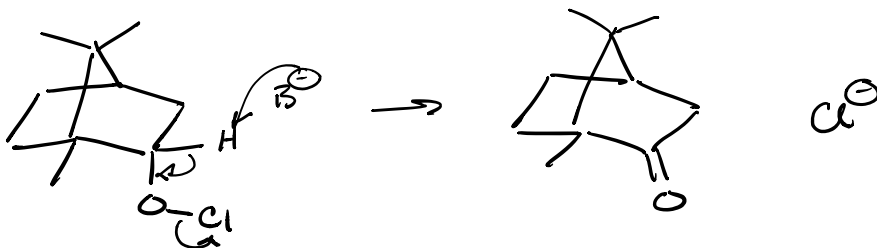


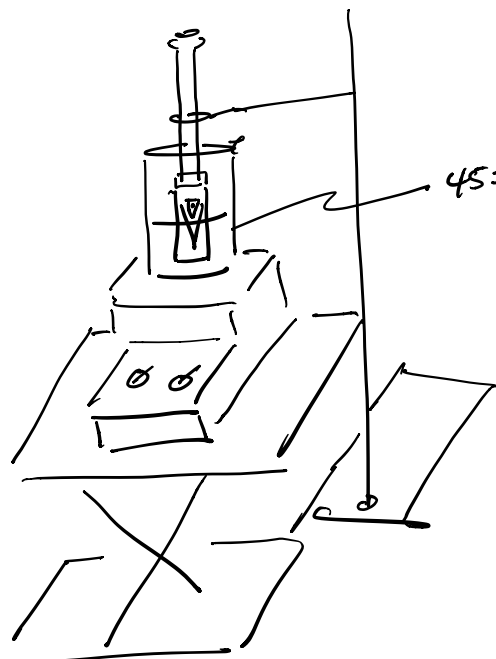


### Bleach Oxidation



glacial  $\Rightarrow$  neat  $\Rightarrow$  no H<sub>2</sub>O





- Add 0.360g ( $\pm$ ) Borned to 5ml Conical vial
- 1.0ml acetone
- 0.3 ml glacial acetic acid
- Heat until Borned dissolves  
(+ 0.5ml acetone) if needed
- Add 6ml NaOCl(aq) over 35 min w/ strong stirring (biphasic mixture)

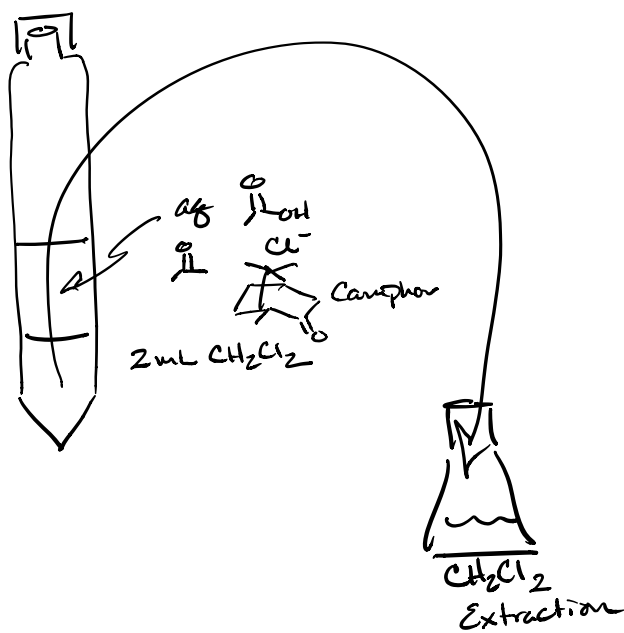
- lower jack stand & cool to Rt

work up

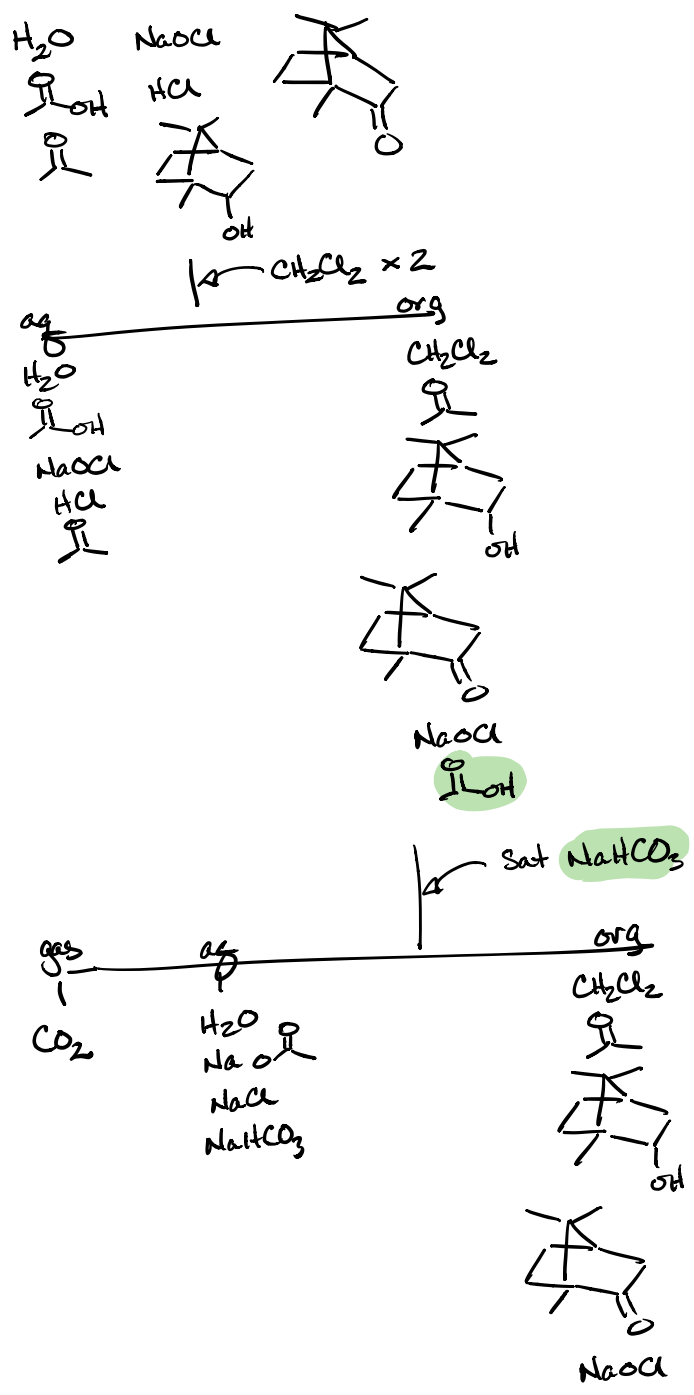
Move Rxn into Centrifuge tube

- Extract 2x w/ 2ml  $\text{CH}_2\text{Cl}_2$   
(Shake, vent, pull out organic layer)

- Dispose of aq layer & put the  $\text{CH}_2\text{Cl}_2$  extraction back into centrifuge tube.



- wash  $\text{CH}_2\text{Cl}_2$  w/  
2.0 mL sat  $\text{NaHCO}_3$   
(shake, vent, pull out  
 $\text{CH}_2\text{Cl}_2$ )
- wash  $\text{CH}_2\text{Cl}_2$  w/  
2.0 mL 5%  $\text{NaHSO}_3$   
(shake, vent, pull out  
 $\text{CH}_2\text{Cl}_2$ )
- wash  $\text{CH}_2\text{Cl}_2$  w/  $\text{H}_2\text{O}$   
(shake, vent, pull out  
 $\text{CH}_2\text{Cl}_2$ )
- dry  $\text{CH}_2\text{Cl}_2$  w/  $\text{MgSO}_4$
- Tare a RB flask
- Rotovap
- mass  $\Rightarrow$  % yield
- mp ( $174^\circ\text{C}$ )
- IR



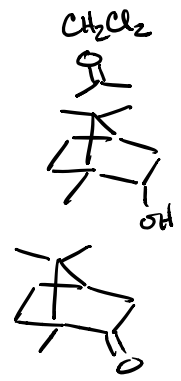


NaOCl

5%  $NaHSO_3(aq)$

aq  
~~g~~  
 $H_2O$   
NaCl  
 $NaHSO_3$

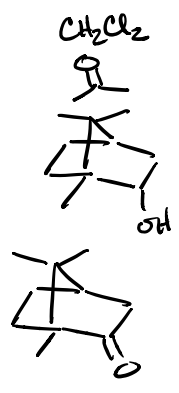
org



Salts ( $NaHCO_3 + NaHSO_3$ )

$H_2O$

org



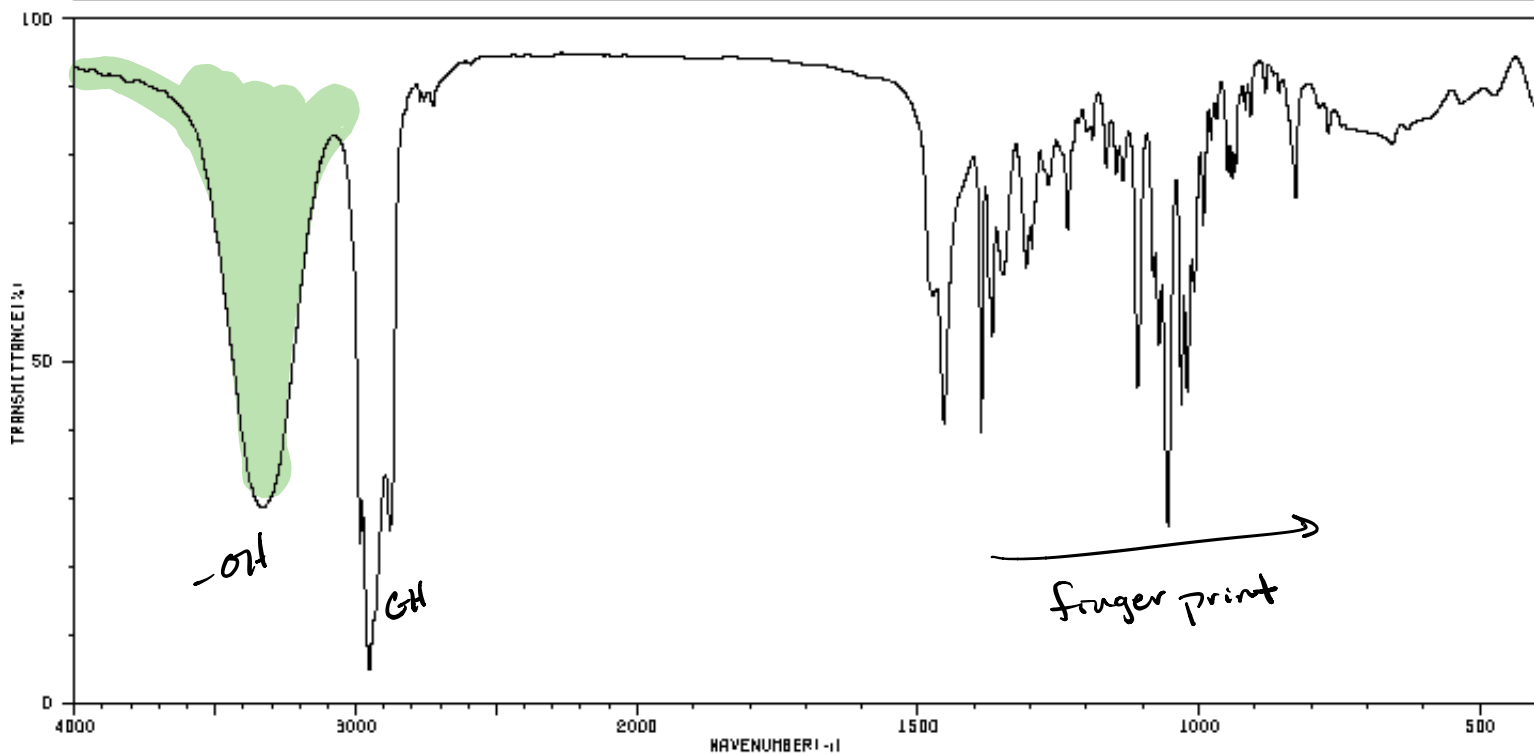
aq  
~~g~~  
 $H_2O$   
Salts



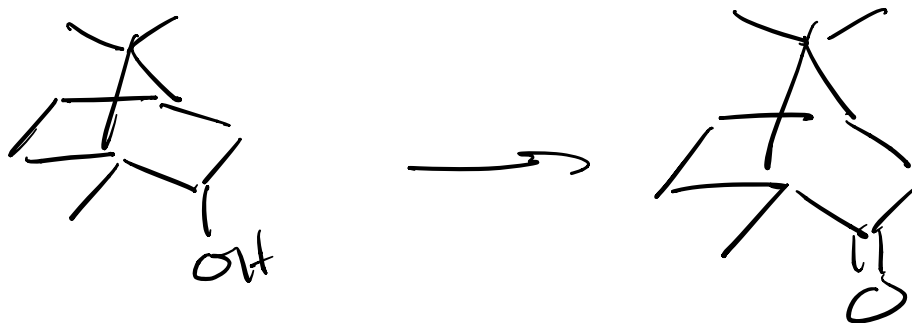
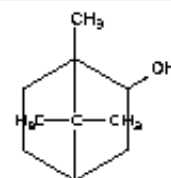


BORNEOL Starting material

C<sub>10</sub>H<sub>16</sub>O



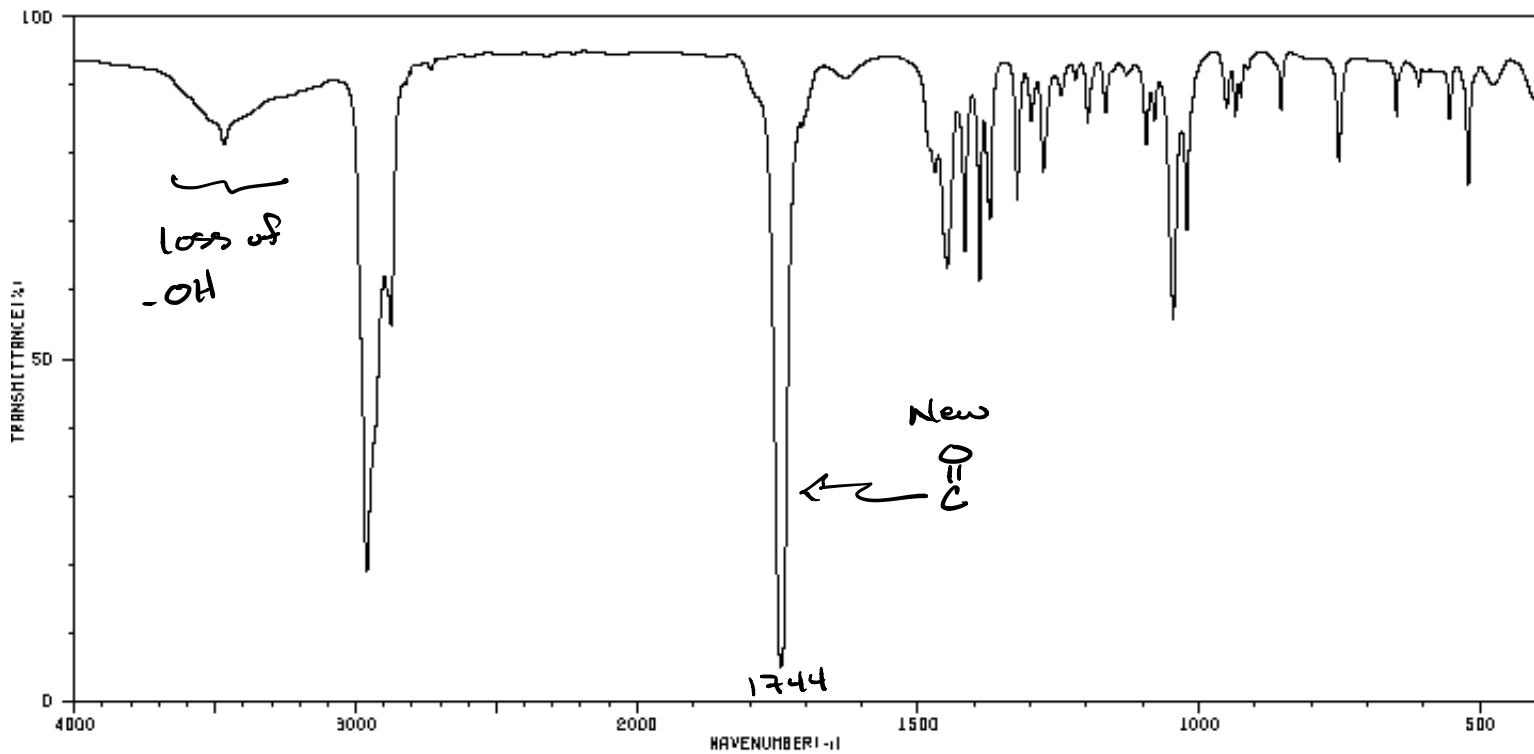
3331	27	1360	60	1166	74	1032	42	942	74
2984	22	1308	60	1148	74	1021	43	935	74
2951	4	1298	64	1136	74	1009	58	909	61
2879	23	1269	72	1110	44	992	68	841	81
1454	39	1234	66	1081	60	978	79	828	70
1368	38	1199	79	1071	50	969	81	770	79
1368	62	1190	78	1055	25	949	74	656	79



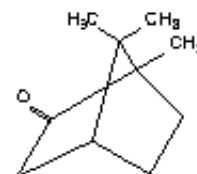
HIT-NO=2976 SCORE= ( ) SDBS-NO=4329 IR-NIDA-18067 : KBR DISC

(+)-CAMPHOR *product*

C<sub>10</sub>H<sub>16</sub>O



3469	79	1391	68	1193	86	936	81	521	72
2961	18	1372	68	1167	81	926	84		
2874	52	1324	70	1094	79	854	84		
1744	4	1300	81	1079	81	761	77		
1470	74	1277	74	1046	53	649	81		
1449	80	1245	84	1022	86	610	86		
1417	64	1199	81	961	84	666	81		



2nd Day Reduction  $\text{NaBH}_4$

