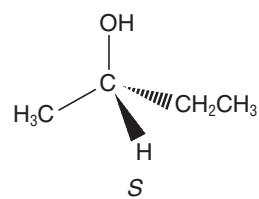
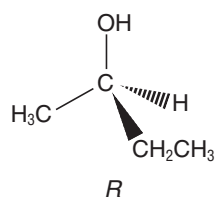


第 4 章 解 答

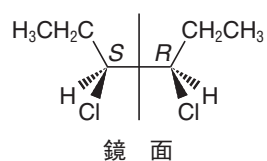
4・1

水素不足指数から，飽和化合物である．

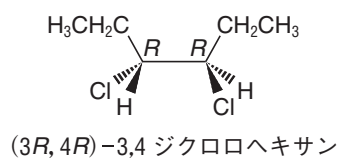
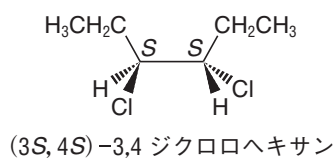


4・2

メソ形

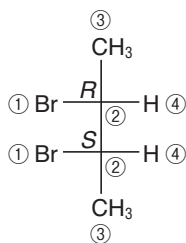


ジアステレオマー

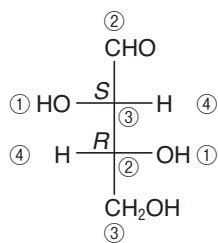


4・3

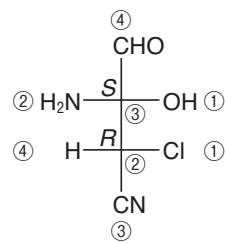
a)



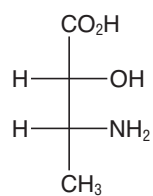
b)



c)



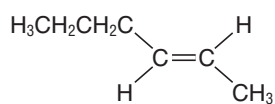
4・4



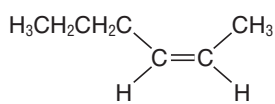
4・5

	光学活性体の数	メソ体の数
a)	4	0
b)	2	1
c)	2	1

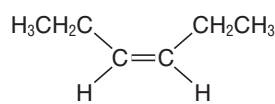
4・6



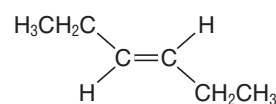
(E)-2-hexene



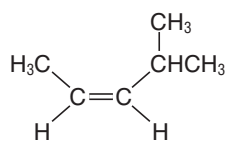
(Z)-2-hexene



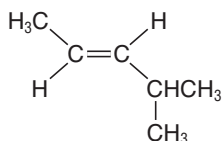
(Z)-3-hexene



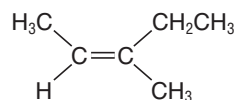
(E)-3-hexene



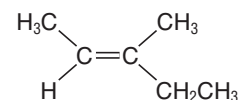
(Z)-4-methyl-2-pentene



(E)-4-methyl-2-pentene



(Z)-3-methyl-2-pentene



(E)-3-methyl-2-pentene

4・7

(E)-3-isopropyl-1,3-pentadiene, (E)-3-(1-methylethyl)-1,3-pentadiene

4・8

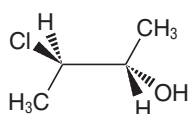
- (E)-3-エチル-4-メチル-1,3-ヘキサジエン
- (S)-2-ブタノール
- (S)-2-アミノプロパナール
- (S)-2-クロロブタン酸

4・9

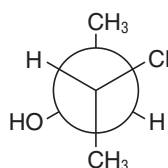
- (2S,3R,4R)-4-bromo-2,3-dimethylcyclohexanone
- (3R,4S)-4-ethyl-3,4,5-trimethyl-1-hexyne
- (2Z)-2-acetyl-3-isopropyl-2,4-pentadienoic acid
(2Z)-2-acetyl-3-(1-methylethyl)-2,4-pentadienoic acid
- (2R)-2-ethyl-2,3,3-trimethyl-1-butanol

4・10

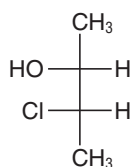
a)



b)

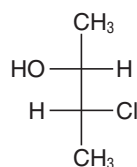


c)

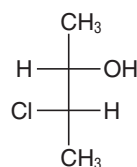


(2R,3S)

d)



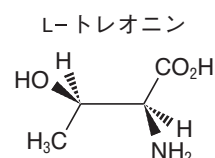
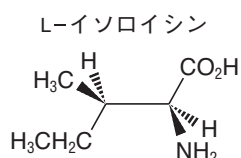
(2R,3R)-3-クロロ-2-ブタノール



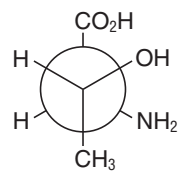
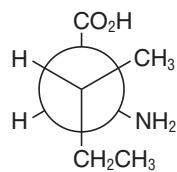
(2S,3S)-3-クロロ-2-ブタノール

4・11

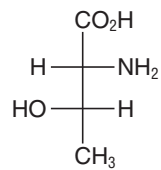
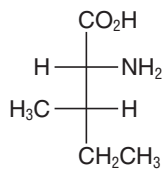
a)



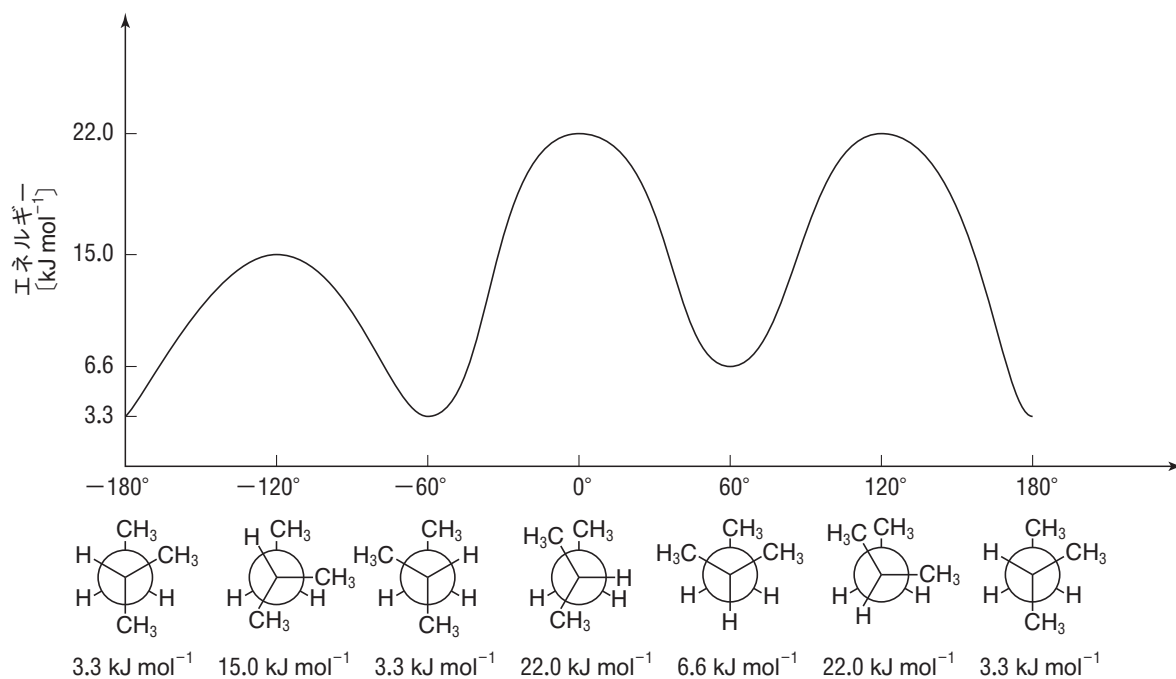
b)



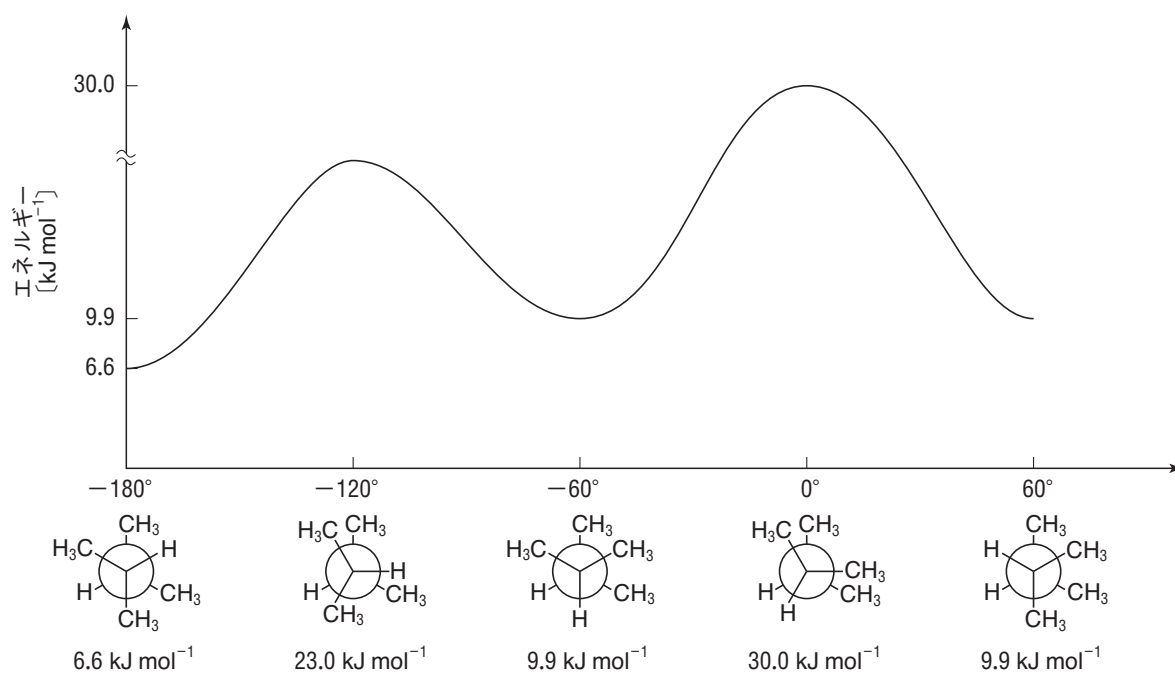
c)



4 • 12

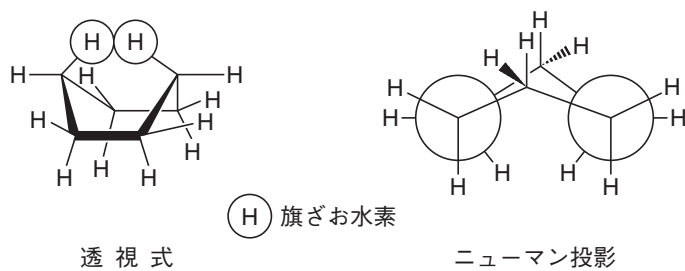


4 • 13

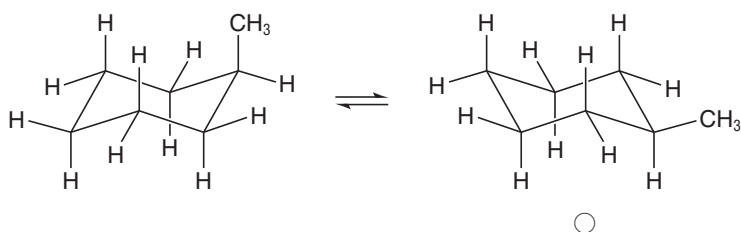


4・14

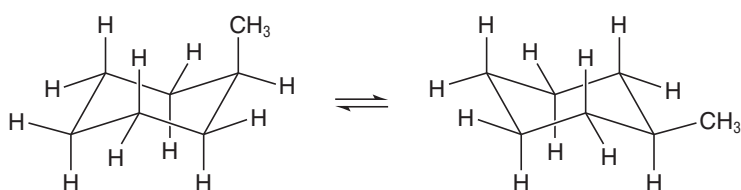
舟形は旗ざお位水素の立体ひずみと重なり形のねじれひずみとの2種のひずみによって、いす形よりも不安定である。



4・15

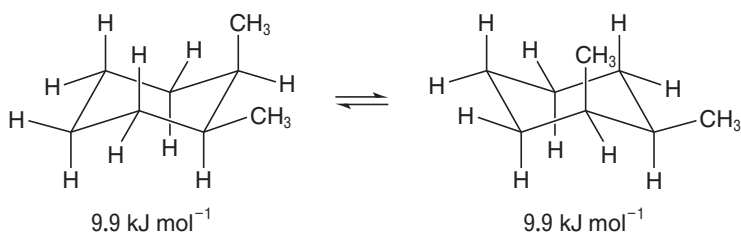


4・16

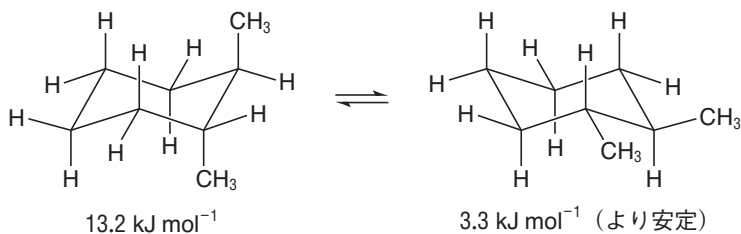


4・17

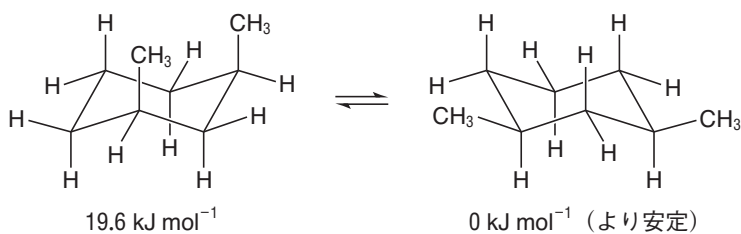
a)



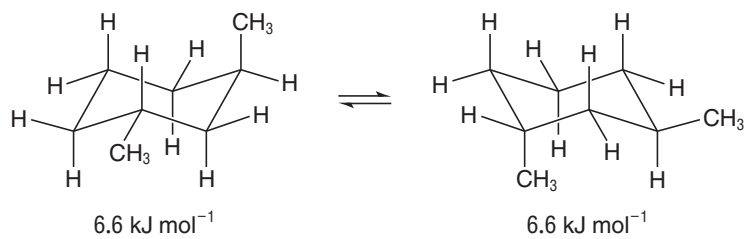
b)



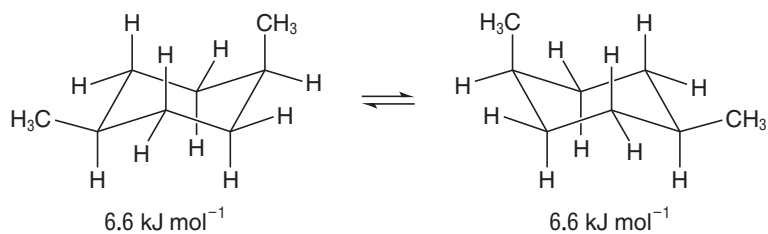
c)



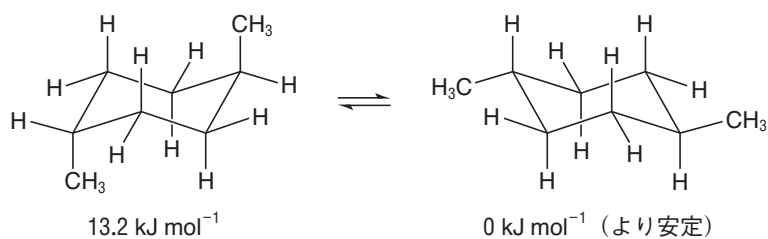
d)



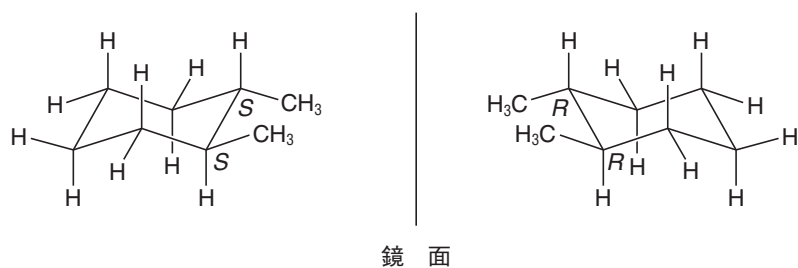
e)



f)

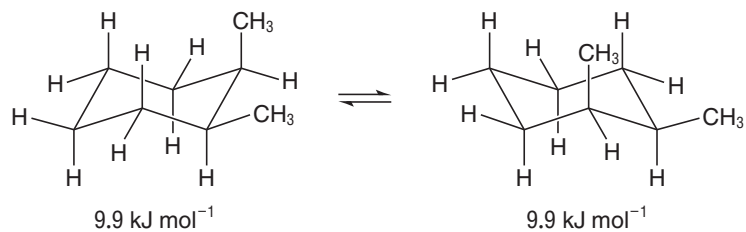


4・18

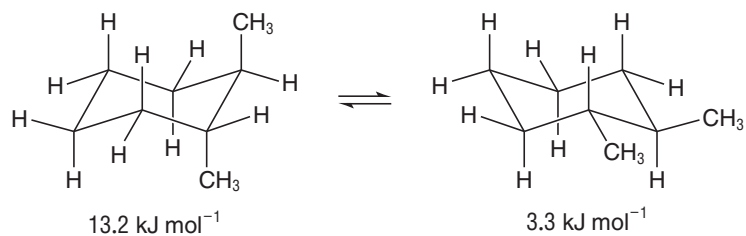


4・19

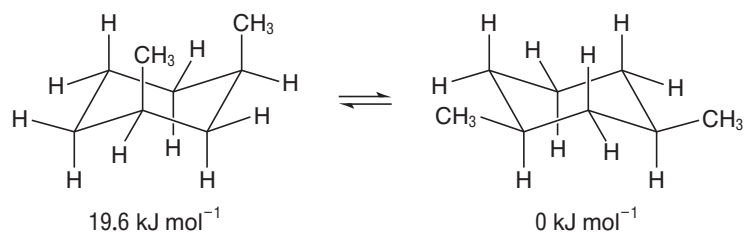
アキラル

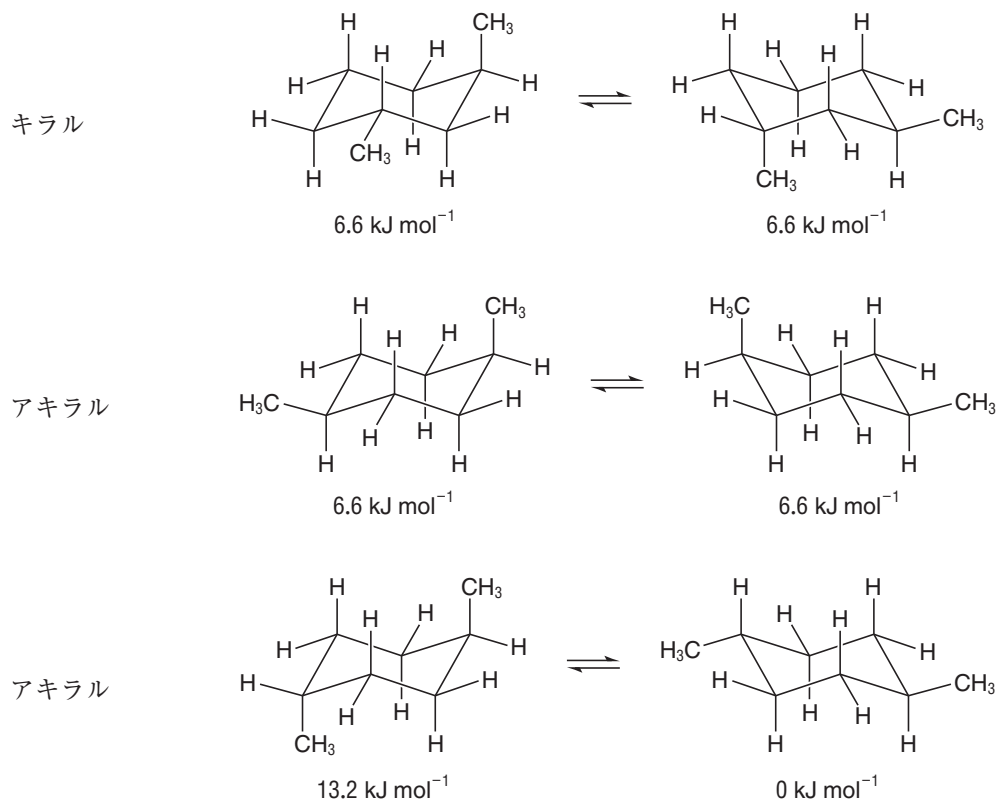


キラル



アキラル





4・20

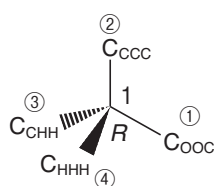
	<i>trans</i> -1,2-ジメチルシクロヘキサン		<i>cis</i> -1,2-ジメチルシクロヘキサン	
a)				
b)	13.2 kJ mol ⁻¹	3.3 kJ mol ⁻¹ (より安定 [†])	9.9 kJ mol ⁻¹	9.9 kJ mol ⁻¹
c)	 キラル	 キラル	 アキラル	 アキラル

[†] *trans* 体は *cis* 体よりも安定.

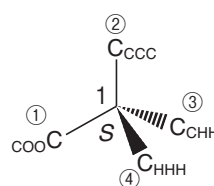
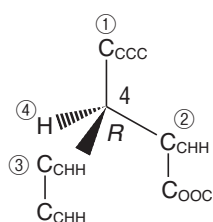
4・21

d-カンフル [シヨウノウ, (1*R*, 4*R*)-2-bornanone]
(1*R*, 4*R*)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one

鏡像異性体 (*l*-カンフル)



(1*R*, 4*R*)



(1*S*, 4*S*)

