

615 ;

A

070300

半

15

2

30

1 一

(1) 2,3- (2) (3) 2- (4)

A (1)>(2)>(3)>(4) B (2)>(3)>(1)>(4)

C (4)>(1)>(3)>(2) D (2)>(4)>(3)>(1)

2

A B C D

3 一

一

?

A 七 B 一 C 七 D 七

C 七 D 七

4

¹H-NMR

A 2 1:2 B 2 5:1 C 3 1:2:3 D 3 1:2:2

5 全 2- 丙

一

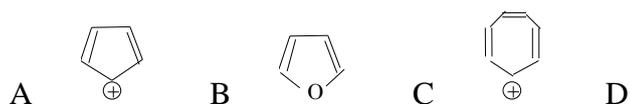
A -2- B -2-

C 丙 D

6

A 6 B 7 C 8 D 9

7 一



8

与 七 5% KMnO₄ Br₂/CCl₄

A KMnO₄ Br₂ B KMnO₄ Br₂

C KMnO₄ Br₂ D KMnO₄ Br₂

9

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别

A PCl₃ B PCl₅ C SOCl₂ D P₂O₅

10

七

CO₂ 反

A B

C Hoffmann D

11

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A B C D

12 —

NaHSO₃

A

B

C 2-

D

13

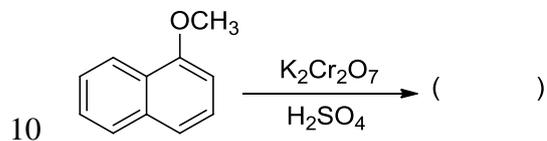
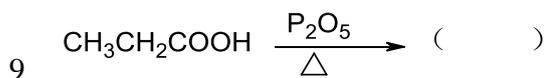
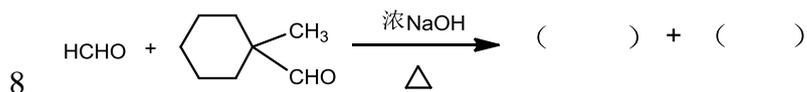
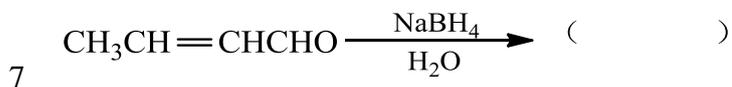
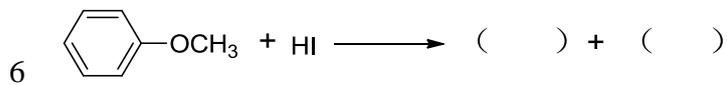
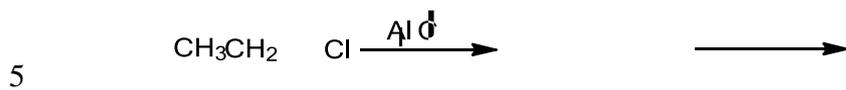
A

B

C

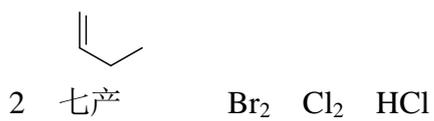
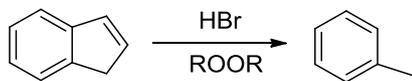
D

14



— 4 8 32

1 — —



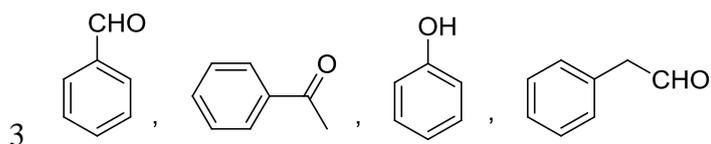
3 丙

4

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1 与 与 与 与

2 与 与 与 与



2 8 16

1 A C₆H₁₀ 七 B
 C₆H₉Ag A C C₆H₁₄ C B C
 A R-S
 2 C₁₀H₁₂O₂ (A) NaOH 七 2,4- 七 Tollens
 (A) LiAlH₄ C₁₀H₁₄O₂ (B) (A) (B) (A) 七 HI
 C₉H₁₀O₂ (C) NaOH Na₂CO₃ (C) Clemmensen
 C₉H₁₂O (D) (C) KMnO₄ A-D

1 8 8

