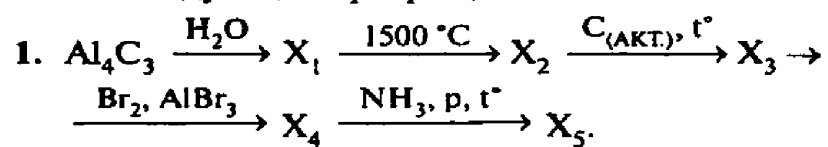


Задания вопроса СЗ

Напишите уравнения реакций, с помощью которых можно осуществить следующие превращения:



2. $\text{Al}_4\text{C}_3 \xrightarrow{\text{H}_2\text{O}} \text{X}_1 \xrightarrow{\text{t}^\circ} \text{X}_2 \rightarrow \text{этаналь} \xrightarrow[\text{H}_2\text{O}]{\text{KMnO}_4} \text{X}_3 \rightarrow \text{X}_4.$
3. $\text{CH}_4 \rightarrow \text{HCHO} \xrightarrow{\text{H}_2 \text{ кат.}} \text{X}_1 \xrightarrow{\text{Na}} \text{X}_2 \xrightarrow{\text{HCl}},$
 $\rightarrow \text{X}_1 \xrightarrow{\text{KMnO}_4, \text{H}_2\text{SO}_4} \text{X}_3.$
4. $\text{CH}_4 \xrightarrow{1500^\circ\text{C}} \text{X}_1 \rightarrow \text{C}_6\text{H}_6 \xrightarrow{\text{CH}_3\text{Cl}, \text{AlCl}_3} \text{X}_2 \xrightarrow{\text{KMnO}_4, \text{H}^+}$
 $\rightarrow \text{X}_3 \xrightarrow{\text{C}_2\text{H}_5\text{OH}, \text{H}^+} \text{X}_4.$
5. $\text{CH}_4 \xrightarrow{1500^\circ\text{C}} \text{X}_1 \xrightarrow{\text{t}^\circ, \text{кат.}} \text{винилацетилен} \xrightarrow{\text{изб. H}_2, \text{кат.}}$
 $\rightarrow \text{X}_2 \xrightarrow{\text{O}_2, \text{t}^\circ, \text{кат.}} \text{этановая кислота} \xrightarrow{\text{NH}_3} \text{X}_3.$
6. $\text{C}_2\text{H}_6 \xrightarrow{\text{Br}_2} \text{X}_1 \xrightarrow{\text{KOH}, \text{H}_2\text{O}} \text{X}_2 \xrightarrow{\text{K}_2\text{Cr}_2\text{O}_7, \text{H}_2\text{SO}_4, \text{H}_2\text{O}},$
 $\rightarrow \text{CH}_3\text{CHO} \rightarrow \text{X}_2 \xrightarrow{\text{t}^\circ, \text{кат.}} \text{дивинил}.$
7. $\text{C}_2\text{H}_6 \xrightarrow{\text{HNO}_3, \text{t}^\circ} \text{X}_1 \xrightarrow{\text{H}_2, \text{t}^\circ, \text{кат.}} \text{X}_2 \xrightarrow{\text{HBr}} \text{X}_3 \xrightarrow{\text{NaOH}} \text{X}_2 \rightarrow$
 $\xrightarrow{\text{C}_2\text{H}_5\text{Br}} \text{X}_4.$
8. $\text{C}_4\text{H}_{10} \xrightarrow{\text{t}^\circ, \text{кат.}} \text{X}_1 \xrightarrow{\text{Br}_2, 40^\circ\text{C}} \text{X}_2 \rightarrow$
 $\rightarrow \text{1,4-дибромбутан} \xrightarrow{\text{KOH (водн.)}} \text{X}_3 \xrightarrow{\text{KMnO}_4, \text{H}_2\text{SO}_4} \text{X}_4.$
9. $\text{H-C}_4\text{H}_{10} \xrightarrow{\text{t}^\circ, \text{кат.}} \text{X}_1 \rightarrow \text{1,4-дибромбутен-2} \xrightarrow{\text{NaOH (водн.)},}$
 $\rightarrow \text{X}_2 \xrightarrow{\text{KMnO}_4, \text{H}_2\text{SO}_4} \text{X}_3 \xrightarrow{\text{Na}} \text{X}_4.$
10. $\text{X}_1 \xrightarrow{\text{Br}_2, \text{свет}} \text{CH}_3\text{Br} \xrightarrow{\text{NH}_3 (\text{изб.})} \text{X}_2 \xrightarrow{\text{HNO}_2} \text{X}_3 \xrightarrow{\text{CuO}, \text{t}^\circ}$
 $\rightarrow \text{H}_2\text{CO} \xrightarrow{\text{KMnO}_4, \text{H}_2\text{SO}_4} \text{X}_4.$

