**Task**

1. Complete the cracking equations by entering the missing reactant and/or product.

2. Above each substance, write whether it is an alkane or an alkene.

3. For substances with 4 or fewer carbon atoms, write the name of the substance below the formula.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1.** | C10H22 |  | C4H10 | + | C2H4 | + |  |
| **2.** | C12H26 |  | C4H10 | + | C5H10 | + |  |
| **3.** | C14H30 |  | C9H20 | + |  | + | C3H6 |
| **4.** | C8H18 |  | C4H8 | + |  | + | CH4 |
| **5.** | C20H42 |  | C10H20 | + | C2H4 | + |  |
| **6.** | C18H38 |  |  | + | C9H18 | + | C5H10 |
| **7.** | C22H46 |  | C15H30 | + |  | + | C4H8 |
| **8.** | C15H32 |  |  | + | C9H18 | + | C2H4 |
| **9.** |  |  | C4H8 | + | C5H10 | + | CH4 |
| **10.** | C22H46 |  | C5H12 | + | C14H28 | + |  |
| **11.** | C18H38 |  |  | + | C10H20 | + | C6H14 |
| **12.** |  |  | C3H6 | + | C8H16 | + | C2H6 |

**Answers**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1.** | alkaneC10H22 |  | alkaneC4H10butane | + | alkeneC2H4ethene | + | alkeneC4H8butene |
| **2.** | alkaneC12H26 |  | alkaneC4H10butane | + | alkeneC5H10 | + | alkeneC3H6propene |
| **3.** | alkaneC14H30 |  | alkaneC9H20 | + | alkeneC2H4ethene | + | alkeneC3H6propene |
| **4.** | alkaneC8H18 |  | alkeneC4H8butene | + | alkeneC3H6propene | + | alkaneCH4methane |
| **5.** | alkaneC20H42 |  | alkeneC10H20 | + | alkeneC2H4ethene | + | alkaneC8H18 |
| **6.** | alkaneC18H38 |  | alkaneC4H10butane | + | alkeneC9H18 | + | alkeneC5H10 |
| **7.** | alkaneC22H46 |  | alkeneC15H30 | + | alkaneC3H8propane | + | alkeneC4H8butene |
| **8.** | alkaneC15H32 |  | alkaneC4H10butane | + | alkeneC9H18 | + | alkeneC2H4ethane |
| **9.** | alkaneC10H22 |  | alkeneC4H8butene | + | alkeneC5H10 | + | alkaneCH4methane |
| **10.** | alkaneC22H46 |  | alkaneC5H12 | + | alkeneC14H28 | + | alkeneC3H6propene |
| **11.** | alkaneC18H38 |  | alkeneC2H4ethene | + | alkeneC10H20 | + | alkaneC6H14 |
| **12.** | alkaneC13H28 |  | alkeneC3H6propene | + | alkeneC8H16 | + | alkaneC2H6ethane |