**Table 1.** Yields (wt%) of main products obtained in helium stream.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Catalyst | 5Pd,20**K3PO4**/AC | | | | 5Pd,20**CsOH**/AC | | | |
| Reac. temp. oC | 200 | 250 | 300 | 350 | 200 | 250 | 300 | 350 |
| isopropyl alc. | - | 0.9 | 2.0 | 2.2 | 0.6 | 1.0 | 1.5 | 1.8 |
| butanol | - | - | - | - | - | - | - | - |
| 2-pentanone | 0.7 | 18.3 | 24.9 | 34.7 | 12.6 | 19.4 | 24.1 | 29.6 |
| 2-pentanol | - | - | - | - | - | - | - | - |
| 4-heptanone | 0.8 | 4.6 | 14.3 | 21.6 | 2.9 | 7.5 | 13.8 | 20.0 |
| 2-heptanone | - | 1.1 | 1.7 | 2.1 | 0.3 | 2.0 | 3.1 | 4.3 |
| 4-heptanol | - | - | - | - | - | - | - | - |
| 4-nonanone | 0.2 | 0.6 | 1.8 | 7.8 | 0.4 | 2.2 | 5.7 | 6.5 |
| CO | - | 0.8 | 4.1 | 9.0 | - | 0.9 | 3.7 | 7.0 |
| CH4 | - | 1.7 | 5.1 | 7.9 | - | 0.5 | 2.2 | 5.5 |
| CO2 | - | - | 4.1 | 5.3 | - | - | 1.1 | 4.4 |

Other products with low yield: acetaldehyde; ethyl acetate; methyl isobutyl ketone; butanoic acid ethyl ester; 4-decanone; 4-undecanone; 6-undecanone; 4-heptanone, 3-ethyl, 2-methyl; 2-pentanone, 3-ethyl; 2-heptanone, 4-methyl; etc.

**Table 2.** Yields (wt%) of main products obtained in hydrogen stream.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Catalyst | 5Pd,20K3PO4/AC | | | | 5Pd,20CsOH/AC | | | |
| Reac. temp. oC | 200 | 250 | 300 | 350 | 200 | 250 | 300 | 350 |
| isopropyl alc. | 23.6 | 19.9 | 15.0 | 9.1 | 22.5 | 18.4 | 12.4 | 5.8 |
| butanol | 0.3 | 1.0 | 3.1 | 1.2 | - | 1.3 | 4.2 | - |
| 2-pentanone | 1.5 | 3.6 | 10.6 | 19.5 | 3.1 | 3.8 | 8.8 | 15.8 |
| 2-pentanol | 7.5 | 11.3 | 9.4 | 5.5 | 13.5 | 17.1 | 4.2 | 3.1 |
| 4-heptanone | - | - | 7.6 | 18.4 | - | - | 13.8 | 23.0 |
| 2-heptanone | - | - | 0.5 | 2.0 | - | - | 0.5 | 1.0 |
| 4-heptanol | 0.2 | 2.7 | 2.7 | 2.7 | 0.3 | 6.5 | 6.9 | 5.3 |
| 4-nonanone | - | - | 1.1 | 3.6 | - | 1.1 | 2.2 | 5.2 |
| CO | - | 0.2 | 1.8 | 6.7 | - | - | 2.6 | 4.3 |
| CH4 | - | 0.6 | 2.6 | 5.6 | - | - | 1.7 | 3.6 |
| CO2 | - | - | 2.8 | 2.3 | - | - | 0.8 | 1.9 |

Other products with low yield: heptane; nonane; etc.