Answer on Question #49672, Chemistry, Other

Task:

Suppose that the molar concentrations for CO and H_2 at equilibrium are [CO] = 0.05 M and [H_2] = 0.06 M.

Use the formula you found in Part B to calculate the concentration of CH_3OH.

Formula from part B: $K_c[CO][H_2]^2$

Answer:

$CO + 2H_2 = CH_3OH$

$Kc = [CH_3OH]/[CO][H_2]^2$

$[CH_3OH] = Kc \times [CO][H_2]^2$

The equilibrium constant for the given recation is Kc = 2.3*104.

$[CH_3OH] = 2.3*104 \times 0,05 \times 0,062 = 4,14$ M