

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
PHYSICAL CHEMISTRY



PHYSICAL CHEMISTRY 311

PROBLEM SET 1

Due: Monday, September 14, 2015

PROBLEM 1

(10 points)

Consider the reaction



At 298 K, $K_p = 0.15$.

Calculate

- (a) ΔG° for the reaction at 298 K.
- (b) ΔG for the reaction at 298 K if the partial pressures of N_2O_4 and NO_2 are 0.10 atm and 0.20 atm, respectively.
- (c) ΔG for the reaction at 298 K if the partial pressures of N_2O_4 and NO_2 are 0.10 atm and 0.20 atm, respectively, and the reaction is carried out at a total pressure of 1.00 atm.