Nomenclature

A  Concentration of hydrogen, kmol/m$^3$
B  Concentration of carbon monoxide, kmol/m$^3$
C  Concentration of catalyst, kmol/m$^3$
D  Concentration of camphene, kmol/m$^3$
H  Henry constant defined by equation 4.4
E  Concentration of ACPAL, kmol/m$^3$
F  Concentration of Catalyst, kgl/m$^3$
G* Concentration of oxygen, kgl/m$^3$
$k_1,k_2$ Intrinsic rate constants, m$^3$/kmol
$k_2$ Constant in Eq. 4.9 m$^3$/kmol
Pf Final pressure MPa
Pi Initial pressure MPa
R  Universal gas constant, kJ/kmol/K
r  Rate of hydroformylation, kmol/m$^3$/s.
$R'_{At}$ Experimental rates, kmol/m$^3$/s
$R_{At}$ Predicted rates, kmol/m$^3$/s
$R_i$ Reaction rate for the hydroformylation step (kmol/m$^3$/s)
$T$ Reaction time, h.
T  Temperature, K
$V_g$ Gas volume, m$^3$
$V_L$ Total liquid volume, m$^3$
$X_a$ Solubility of gas of the solute gas at pressure $P_f$, kmol/m$^3$/MPa
$\Phi$ Parameter defined by Eq-5.6