t = time
x = biomass concentration
x_m = biomass concentration measurement
$\underline{x}$ = state variables vector
$\underline{u}$ = input (manipulated variables and disturbances) vector
V = volume
Y = yield

Greek letters

α = specific growth rate adaptability constant
β = alternate dynamic model independent variable
μ = specific growth rate
μ_m = maximum specific growth rate
θ_i = parameter estimated on-line

Subscript

s = steady state

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Errata

In the article titled "Continuous Olefin Copolymerization with Soluble Ziegler-Natta Catalysts," by Kee Jeong Kim and Kyu Yong Choi (August 1991, Vol. 37, p. 1255), incorrect numerical values of some parameters in Table 2 were inadvertently published. The following are the correct numerical values. The correct values of these parameters were used to obtain the results presented in the article.

Table 2. Numerical Values of Kinetic and Physical Parameters

Kinetic parameters

$k_{11} = 1.60 \times 10^{10} \exp(-4{,}900/RT)$ l/mol·h
$k_{12} = 7.36 \times 10^{8} \exp(-4{,}900/RT)$ l/mol·h
$k_{21} = 4.80 \times 10^{10} \exp(-6{,}200/RT)$ l/mol·h
$k_{22} = 1.06 \times 10^{9} \exp(-6{,}200/RT)$ l/mol·h
$k_d = 4.74 \times 10^{4} \exp(-6{,}000/RT)$ h^{-1}
$k_{f11} = 5.85 \times 10^{4} \exp(-3{,}475/RT)$ l/mol·h
$k_{f12} = 1.7 \times 10^{-2} k_{f11}$ l/mol·h
$k_{f21} = 2.71 \times 10^{4} \exp(-4{,}777/RT)$ l/mol·h
$k_{f22} = 3.0 \times 10^{-2} k_{f21}$ l/mol·h
$k_{f1Al} = 5.85 \times 10^{5} \exp(-3{,}475/RT)$ $(\text{mol/l})^{1/2}$/h
$k_{f2Al} = 1.7 \times 10^{-2} k_{f1Al}$ $(\text{mol/l})^{1/2}$/h
$k_{f1} = 5.04 \times 10^{10} \exp(-11{,}095/RT)$ h^{-1}
$k_{f2} = 1.37 \times 10^{12} \exp(-12{,}395/RT)$ h^{-1}

Physical and Reactor Design Parameters

$T_r = 300°C$

$\Theta = T(°C)/T_r(°C)$ $\Theta_f = T_f(°C)/T_r(°C)$ $\Theta_c = T_c(°C)/T_r(°C)$