

Symbol	Description	Value
dt	Simulation time step	$20 \mu s$
T	Temperature	310 K
e	Coefficient of restitution	0.9
η	Viscosity	$0.0011 \text{ Kg} \times (ms)^{-1}$
α	Grow factor for assimilations in RX	2
β	Tolerance factor	0.95
T_S	Symbol time	10 s
r_{RX}	Radius node RX	$2.5 \mu m$
r_{TX}	Radius node TX	$2.5 \mu m$
R_{RX}	Amount of surface receptors (node RX)	10000
R_{TX}	Amount of surface receptors (node TX)	10000
$r_{c,rx}$	Radius emitted molecules (type R)	3.5 nm
$r_{c,tx}$	Radius emitted molecules (type S)	1.75 nm
$r_{r,rx}$	Receptor radius (node RX)	8 nm
$r_{r,tx}$	Receptor radius (node TX)	4 nm
T_{traff}	Trafficking time	$200 \mu s$
ζ_S	Assimilation Threshold (node TX)	34 molecules
Δt	Emission time (node TX)	20 ms
$Timeout_{rx}$	Timeout before retransmission (node RX)	54 s
ζ_{halve}	Assimilation Threshold for HALVE signal (node RX)	250 molecules
ζ_{stop}	Assimilation Threshold for STOP signal (node RX)	10000, 20000 molecules
$START$	Signal pattern: START	110
$HALVE$	Signal pattern: HALVE	10
$STOP$	Signal pattern: STOP	111
d	Simulated distance (μm)	26.5, 35.4, 44.2, 53.0, 61.9
$B_{0,RX}$	Initial burst (node RX)	1000 R molecules
$B_{0,TX}$	Initial burst (node TX)	1 S molecule
ζ_{RTT}	Assimilation Threshold for RTT estimation (node RX)	5 molecules
T_w	Waiting time for parabolic estimation (node RX)	0.2 s