process P

P   = nonCritP.P + set_wantp_true.P1
P1 = is_wantq_false.P2
P2 = critical.P3
P3 = set_wantp_false.P

process q

Q   = nonCritQ.Q + set_wantq_true.Q1
Q1 = is_wantp_false.Q2
Q2 = critical.Q3
Q3 = set_wantq_false.Q

wantP (all actions are coactions)

WP   = is_wantp_false.WP + set_wantp_true.WP1
WP1 = is_wantp_true.WP1 + set_wantp_false.WP

wantQ (all actions are coactions)

WQ   = is_wantq_false.WQ + set_wantq_true.WQ1
WQ1 = is_wantq_true.WQ1 + set_wantq_false.WQ

system: (P || WP || WQ || Q) \ {is_wantp_false, is_wantp_true, set_wantp_true, set_wantp_false,is_wantq_false, is_wantq_true, set_wantq_true, set_wantq_false}

tau(set_want_p_false)

tau(set_want_q_false)

nonCritP

nonCritQ

X1

tau (set_wantp_true)

tau (set_wantq_true)

②

①

nonCritQ

X2

nonCritP

X3

tau(is_want_q_false)

tau (set_wantq_true)

tau (set_wantp_true)

tau(is_want_p_false)

nonCritQ

X4

X8

nonCritP

X5

critical

tau (set_wantq_true)

tau (set_wantp_true)

critical

nonCritQ

X7

X9

X10

nonCritP

X7

tau (set_wantq_true)

critical

critical

tau (set_wantp_true)

X11

X12

tau (set_wantp_false)

tau (set_wantq_false)

①

②

legend

correct states

deadlock

(Warning: tau symbol is not rendered correctly on the output pdf. All silen actions are surrounded by "(" and ")"