r1a, r1a_reverse, r1b, r2a, r2a_reverse, r2b, r0, r10a, r10a_n,

r3a, r3a_reverse, r3b, r5a, r5a_reverse,

r0, r10a, r10a_n,

r10a_n_reverse, r10a_reverse, r10b, r10b_n, r10c_n, r10n_c, r11a, r11a_n,

r5b, r0, r10a, r10a_n, r10a_n_reverse, r10a_reverse, r10b, r10b_n, r10c_n,

r10a_n_reverse, r10a_reverse, r10b, r10b_n, r10c_n, r10n_c, r11a, r11a_n,

r11a_n_reverse, r11a_reverse, r11c_n, r11n_c, r12c_n, r12n_c,
r10n_c, r11a, r11a_n, r11a_n_reverse, r11a_reverse, r11c_n, r1
r11a_n_reverse, r11a_reverse, r11c_n, r11n_c, r12c_n, r12n_c,

r13c_n, r13n_c, r14c_n, r14n_c, r15c_n, r15n_c, r1c_n, r1n_c,
1n_c, r12c_n, r12n_c, r13c_n, r13n_c, r14c_n, r14n_c, r15c_n,
r13c_n, r13n_c, r14c_n, r14n_c, r15c_n, r15n_c, r1c_n, r1n_c,

r2c_n, r2n_c, r3a, r3a_reverse, r3b, r3c_n, r3n_c, r4a, r4a_n, r4a_n species: E1, E1_MKKK, E2, E2_P_MKK {E1, E1_MKKK, E2, E2_P_MKKK,
r15n_c, r1c_n, r1n_c, r2c_n, r2n_c, r3c_n, r3n_c, r4a, r4a_n, r4a_n species: E1, ERK_c, {E1, ERK_c, ER
r2c_n, r2n_c, r3c_n, r3n_c, r4a, r4a_n, r4a_n_reverse, r4a_reverse,

_reverse, r4a_reverse, r4b, r4b_n, r4c_n, r4n_c, r5a, r5a_reverse, r5b, r
KK, ERK_c, ERK_n, MKKK, MKK_ERK_c, MKK_ERK_n, MKK_c,
ERK_c, ERK_n, MKKK, MKK_ERK_c, MKK_ERK_n, MKK_c, MK

_reverse, r4a_reverse, r4b, r4b_n, r4c_n, r4n_c, r5c_n, r5n_c, r6a, r6a_
ERK_n, MKK_ERK_c, MKK_ERK_n, MKK_c, MKK_n, P1_PP_M
K_n, MKK_ERK_c, MKK_ERK_n, MKK_c, MKK_n, P1_PP_MKK_

r4b, r4b_n, r4c_n, r4n_c, r5c_n, r5n_c, r6a, r6a_n, r6a_n_reverse, r6a_
species: E1, ERK_c, ERK_n, MKK_ERK_c, MKK_ERK_n, MK
{E1, ERK_c, ERK_n, MKK_ERK_c, MKK_ERK_n, MKK_c

5c_n, r5n_c, r6a, r6a_n, r6a_n_reverse, r6a_reverse, r6b, r6b_n,
MKK_n, P1_PP_MKK_c, P1_PP_MKK_n, P1_P_MKK_c, P1_
K_n, P1_PP_MKK_c, P1_PP_MKK_n, P1_P_MKK_c, P1_P_M

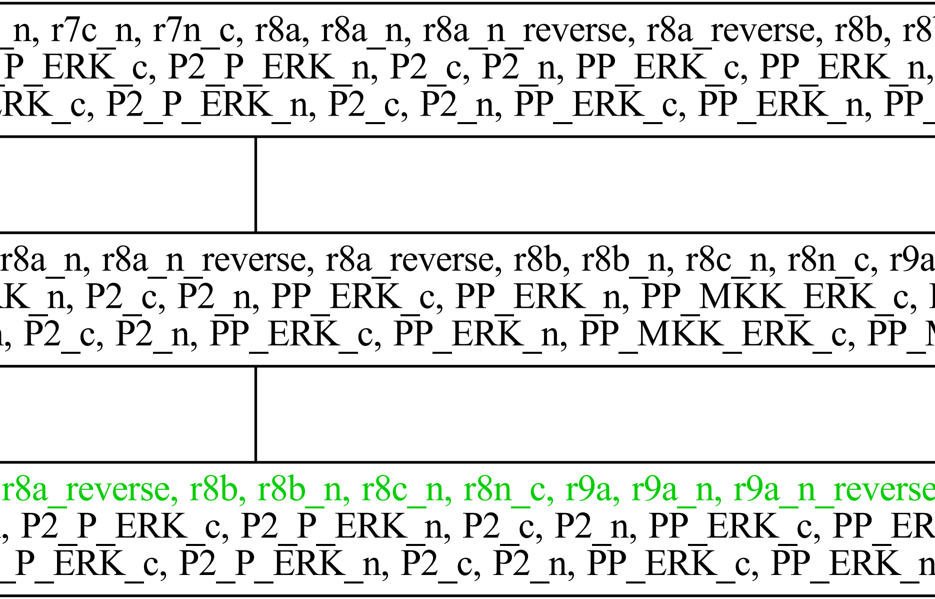
n, r6a_n_reverse, r6a_reverse, r6b, r6b_n, r6c_n, r6n_c, r7a, r7a
KK_c, P1_PP_MKK_n, P1_P_MKK_c, P1_P_MKK_n, P1_c, P
c, P1_PP_MKK_n, P1_P_MKK_c, P1_P_MKK_n, P1_c, P1_n,

reverse, r6b, r6b_n, r6c_n, r6n_c, r7a, r7a_n, r7a_n_reverse, r7a
K_c, MKK_n, P1_PP_MKK_c, P1_PP_MKK_n, P1_P_MKK_c
, MKK_n, P1_PP_MKK_c, P1_PP_MKK_n, P1_P_MKK_c, P1

r6c_n, r6n_c, r7a, r7a_n, r7a_n_reverse, r7a_reverse, r7b, r7b_
_P_MKK_n, P1_c, P1_n, P2_PP_ERK_c, P2_PP_ERK_n, P2_
MKK_n, P1_c, P1_n, P2_PP_ERK_c, P2_PP_ERK_n, P2_P_E

_n, r7a_n_reverse, r7a_reverse, r7b, r7b_n, r7c_n, r7n_c, r8a,
1_n, P2_PP_ERK_c, P2_PP_ERK_n, P2_P_ERK_c, P2_P_ER
P2_PP_ERK_c, P2_PP_ERK_n, P2_P_ERK_c, P2_P_ERK_n

_reverse, r7b, r7b_n, r7c_n, r7n_c, r8a, r8a_n, r8a_n_reverse,
c, P1_P_MKK_n, P1_c, P1_n, P2_PP_ERK_c, P2_PP_ERK_n
_P_MKK_n, P1_c, P1_n, P2_PP_ERK_c, P2_PP_ERK_n, P2_


_n, r7c_n, r7n_c, r8a, r8a_n, r8a_n_reverse, r8a_reverse, r8b, r8
P_ERK_c, P2_P_ERK_n, P2_c, P2_n, PP_ERK_c, PP_ERK_n,
RK_c, P2_P_ERK_n, P2_c, P2_n, PP_ERK_c, PP_ERK_n, PP_
r8a_n, r8a_n_reverse, r8a_reverse, r8b, r8b_n, r8c_n, r8n_c, r9a
K_n, P2_c, P2_n, PP_ERK_c, PP_ERK_n, PP_MKK_ERK_c,
, P2_c, P2_n, PP_ERK_c, PP_ERK_n, PP_MKK_ERK_c, PP_
r8a_reverse, r8b, r8b_n, r8c_n, r8n_c, r9a, r9a_n, r9a_n_reverse
, P2_P_ERK_c, P2_P_ERK_n, P2_c, P2_n, PP_ERK_c, PP_ER
_P_ERK_c, P2_P_ERK_n, P2_c, P2_n, PP_ERK_c, PP_ERK_n

b_n, r8c_n, r8n_c, r9a, r9a_n, r9a_n_reverse, r9a_reverse, r9b,
PP_MKK_ERK_c, PP_MKK_ERK_n, PP_MKK_P_ERK_c,
_MKK_ERK_c, PP_MKK_ERK_n, PP_MKK_P_ERK_c, PP_

, r9a_n, r9a_n_reverse, r9a_reverse, r9b, r9b_n, r9c_n, r9n_c
PP_MKK_ERK_n, PP_MKK_P_ERK_c, PP_MKK_P_ERK_n
MKK_ERK_n, PP_MKK_P_ERK_c, PP_MKK_P_ERK_n, PP

, r9a_reverse, r9b, r9b_n, r9c_n, r9n_c OP: E1, ERK_c, ERK_
K_n, PP_MKK_ERK_c, PP_MKK_ERK_n, PP_MKK_P_ER
, PP_MKK_ERK_c, PP_MKK_ERK_n, PP_MKK_P_ERK_c,

r9b_n, r9c_n, r9n_c OP: E1, ERK_c, ERK_n, MKK_ERK_c,
PP_MKK_P_ERK_n, PP_MKK_c, PP_MKK_n, P_ERK_c, P
MKK_P_ERK_n, PP_MKK_c, PP_MKK_n, P_ERK_c, P_ER

OP: E1, ERK_c, ERK_n, MKK_ERK_c, MKK_ERK_n, MKK
n, PP_MKK_c, PP_MKK_n, P_ERK_c, P_ERK_n, P_MKKK,
_MKK_c, PP_MKK_n, P_ERK_c, P_ERK_n, P_MKKK, P_M

_n, MKK_ERK_c, MKK_ERK_n, MKK_c, MKK_n, P1_PP_M
K_c, PP_MKK_P_ERK_n, PP_MKK_c, PP_MKK_n, P_ERK
PP_MKK_P_ERK_n, PP_MKK_c, PP_MKK_n, P_ERK_c, P

MKK_ERK_n, MKK_c, MKK_n, P1_PP_MKK_c, P1_PP_MKK
_ERK_n, P_MKKK, P_MKKK_MKK, P_MKKK_P_MKK, P_M
K_n, P_MKKK, P_MKKK_MKK, P_MKKK_P_MKK, P_MKK_

_c, MKK_n, P1_PP_MKK_c, P1_PP_MKK_n, P1_P_MKK_c, P1
P_MKKK_MKK, P_MKKK_P_MKK, P_MKK_c, P_MKK_n
MKKK_MKK, P_MKKK_P_MKK, P_MKK_c, P_MKK_n}

MKK_c, P1_PP_MKK_n, P1_P_MKK_c, P1_P_MKK_n, P1_c, P
_c, P_ERK_n, P_MKK_c, P_MKK_n
_ERK_n, P_MKK_c, P_MKK_n}

_n, P1_P_MKK_c, P1_P_MKK_n, P1_c, P1_n, P2_PP_ERK_c,
KK_c, P_MKK_n
_c, P_MKK_n}

1_P_MKK_n, P1_c, P1_n, P2_PP_ERK_c, P2_PP_ERK_n, P2_P

1_n, P2_PP_ERK_c, P2_PP_ERK_n, P2_P_ERK_c, P2_P_ERK_

P2_PP_ERK_n, P2_P_ERK_c, P2_P_ERK_n, P2_c, P2_n, PP

_ERK_c, P2_P_ERK_n, P2_c, P2_n, PP_ERK_c, PP_ERK_n,

_n, P2_c, P2_n, PP_ERK_c, PP_ERK_n, PP_MKK_ERK_c, P

_ERK_c, PP_ERK_n, PP_MKK_ERK_c, PP_MKK_ERK_n, PP_

PP_MKK_ERK_c, PP_MKK_ERK_n, PP_MKK_P_ERK_c, PP_

P_MKK_ERK_n, PP_MKK_P_ERK_c, PP_MKK_P_ERK_n, PP_

MKK_P_ERK_c, PP_MKK_P_ERK_n, PP_MKK_c, PP_MKK_n, P_ER

_MKK_P_ERK_n, PP_MKK_c, PP_MKK_n, P_ERK_c, P_ERK_n, P_M

_MKK_c, PP_MKK_n, P_ERK_c, P_ERK_n, P_MKK_c, P_MKK_n

K_c, P_ERK_n, P_MKK_c, P_MKK_n

KK_c, P_MKK_n