```
t0=0
t=t0:0.00:30

sz=stacksize('max')

s0=[100e-9;100e-9;100e-9;100e-9;100e-9;100e-9;100e-9;100e-9;100e-9;100e-9;0;0;0;0;0;0;
0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;
0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;
0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;
0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;
0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;
0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;
0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;
0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;
0;0;0;0;0;0;0;0;0;0;0;0;0;]


k1=3.0e8
k2=17
k3=3
k4=3
k5=1.0e5
k6=1.0e5
k7=3.0e7

function sfunc = sdot(t,s)


sfunc(1)=-k1*s(1)*s(2)-k1*s(1)*s(3)-k1*s(1)*s(4)-k1*s(27)*s(1)-k1*s(35)*s(1)-k1*s(135)*s
(1)

sfunc(2)=-k1*s(1)*s(2)-k1*s(12)*s(2)-k1*s(13)*s(2)-k1*s(17)*s(2)-k1*s(25)*s(2)-k1*s(96)
*s(2)-k1*s(98)*s(2)-k1*s(138)*s(2)-k1*s(140)*s(2)-k1*s(141)*s(2)-k1*s(145)*s(2)-k1*s(20
```

4)*s(2)-k1*s(206)*s(2)-k1*s(242)*s(2)-k1*s(245)*s(2)-k1*s(249)*s(2)-k1*s(250)*s(2)-k1*s(312)*s(2)-k1*s(313)*s(2)

sfunc(3)=-k1*s(1)*s(3)-k1*s(11)*s(3)-k1*s(13)*s(3)-k1*s(15)*s(3)-k1*s(16)*s(3)-k1*s(20)*s(3)-k1*s(21)*s(3)-k1*s(24)*s(3)-k1*s(30)*s(3)-k1*s(38)*s(3)-k1*s(39)*s(3)-k1*s(41)*s(3)-k1*s(43)*s(3)-k1*s(44)*s(3)-k1*s(48)*s(3)-k1*s(49)*s(3)-k1*s(54)*s(3)-k1*s(56)*s(3)-k1*s(59)*s(3)-k1*s(60)*s(3)-k1*s(66)*s(3)-k1*s(67)*s(3)-k1*s(92)*s(3)

sfunc(4)=-k1*s(1)*s(4)-k1*s(11)*s(4)-k1*s(12)*s(4)-k1*s(14)*s(4)-k1*s(16)*s(4)-k1*s(19)*s(4)-k1*s(21)*s(4)-k1*s(23)*s(4)-k1*s(30)*s(4)-k1*s(38)*s(4)-k1*s(39)*s(4)-k1*s(40)*s(4)-k1*s(41)*s(4)-k1*s(44)*s(4)-k1*s(47)*s(4)-k1*s(49)*s(4)-k1*s(51)*s(4)-k1*s(54)*s(4)-k1*s(55)*s(4)-k1*s(59)*s(4)-k1*s(60)*s(4)-k1*s(58)*s(4)-k1*s(62)*s(4)-k1*s(64)*s(4)-k1*s(70)*s(4)-k1*s(74)*s(4)-k1*s(77)*s(4)-k1*s(80)*s(4)-k1*s(81)*s(4)-k1*s(85)*s(4)-k1*s(88)*s(4)-k1*s(90)*s(4)-k1*s(96)*s(4)-k1*s(97)*s(4)-k1*s(100)*s(4)-k1*s(102)*s(4)-k1*s(104)*s(4)-k1*s(106)*s(4)-k1*s(107)*s(4)-k1*s(110)*s(4)-k1*s(112)*s(4)-k1*s(114)*s(4)-k1*s(116)*s(4)-k1*s(117)*s(4)-k1*s(118)*s(4)-k1*s(121)*s(4)-k1*s(124)*s(4)-k1*s(126)*s(4)-k1*s(128)*s(4)-k1*s(129)*s(4)-k1*s(132)*s(4)-k1*s(138)*s(4)-k1*s(139)*s(4)-k1*s(140)*s(4)-k1*s(142)*s(4)-k1*s(144)*s(4)-k1*s(149)*s(4)-k1*s(151)*s(4)-k1*s(154)*s(4)-k1*s(155)*s(4)-k1*s(158)*s(4)-k1*s(159)*s(4)-k1*s(160)*s(4)-k1*s(162)*s(4)-k1*s(164)*s(4)-k1*s(167)*s(4)-k1*s(169)*s(4)-k1*s(171)*s(4)-k1*s(174)*s(4)-k1*s(175)*s(4)-k1*s(178)*s(4)-k1*s(179)*s(4)-k1*s(180)*s(4)-k1*s(181)*s(4)-k1*s(182)*s(4)-k1*s(187)*s(4)-k1*s(190)*s(4)-k1*s(192)*s(4)-k1*s(194)*s(4)-k1*s(195)*s(4)-k1*s(198)*s(4)-k1*s(200)*s(4)-k1*s(202)*s(4)-k1*s(204)*s(4)-k1*s(205)*s(4)-k1*s(208)*s(4)-k1*s(210)*s(4)-k1*s(212)*s(4)-k1*s(214)*s(4)-k1*s(215)*s(4)-k1*s(218)*s(4)-k1*s(220)*s(4)-k1*s(222)*s(4)-k1*s(224)*s(4)-k1*s(225)*s(4)-k1*s(226)*s(4)-k1*s(229)*s(4)-k1*s(232)*s(4)-k1*s(234)*s(4)-k1*s(236)*s(4)-k1*s(237)*s(4)-k1*s(240)*s(4)-k1*s(243)*s(4)-k1*s(247)*s(4)-k1*s(256)*s(4)-k1*s(261)*s(4)-k1*s(268)*s(4)-k1*s(274)*s(4)-k1*s(300)*s(4)-k1*s(342)*s(4)-k1*s(347)*s(4)-k1*s(354)*s(4)-k1*s(360)*s(4)-k1*s(371)*s(4)-k1*s(384)*s(4)-k1*s(398)*s(4)-k1*s(399)*s(4)-k1*s(405)*s(4)-k1*s(406)*s(4)-k1*s(244)*s(4)

sfunc(5)=-k7*s(25)*s(5)

sfunc(6)=-k7*s(92)*s(6)

sfunc(7)=-k7*s(7)*s(410)

sfunc(8)=-k1*s(25)*s(8)

sfunc(9)=-k1*s(92)*s(9)

sfunc(10)=-k1*s(410)*s(10)

sfunc(11)=k1*s(1)*s(2)-k1*s(11)*s(3)-k1*s(11)*s(4)-k2*s(11)-k1*s(25)*s(11)-k1*s(35)*s(11)-k1*s(135)*s(11)

sfunc(12)=k1*s(1)*s(3)-k1*s(12)*s(2)-k1*s(12)*s(4)-k1*s(27)*s(12)-k1*s(35)*s(12)-k1*s(92)*s(12)-k1*s(135)*s(12)

sfunc(13)=k1*s(1)*s(4)-k1*s(13)*s(2)-k1*s(13)*s(3)-k1*s(27)*s(13)-k1*s(35)*s(13)-k1*s(135)*s(13)

sfunc(14)=k1*s(11)*s(3)+k1*s(12)*s(2)-k1*s(14)*s(4)-k2*s(14)-k1*s(25)*s(14)-k1*s(35)*s(14)-k1*s(92)*s(14)-k1*s(135)*s(14)

sfunc(15)=k1*s(11)*s(4)+k1*s(13)*s(2)-k1*s(15)*s(3)-k2*s(15)-k1*s(25)*s(15)-k1*s(35)*s(15)-k1*s(135)*s(15)

sfunc(16)=k2*s(11)-k1*s(16)*s(3)-k1*s(16)*s(4)-k3*s(16)+k2*s(21)+k2*s(30)-k1*s(35)*s(16)-k1*s(135)*s(16)

sfunc(17)=k1*s(12)*s(4)+k1*s(13)*s(3)-k1*s(17)*s(2)-k1*s(27)*s(17)-k1*s(35)*s(17)-k1*s(92)*s(17)-k1*s(135)*s(17)

sfunc(18)=k1*s(14)*s(4)+k1*s(15)*s(3)+k1*s(17)*s(2)-k2*s(18)-k1*s(25)*s(18)-k1*s(35)*s(18)-k1*s(92)*s(18)-k1*s(135)*s(18)

sfunc(19)=k2*s(14)+k1*s(16)*s(3)-k1*s(19)*s(4)-k3*s(19)+k2*s(23)+k2*s(31)-k1*s(35)*s(19)-k1*s(92)*s(19)-k1*s(135)*s(19)

sfunc(20)=k2*s(15)+k1*s(16)*s(4)-k1*s(20)*s(3)-k3*s(20)+k2*s(24)+k2*s(32)-k1*s(35)*s(20)-k1*s(135)*s(20)

sfunc(21)=k3*s(16)-k1*s(21)*s(3)-k1*s(21)*s(4)-k2*s(21)-k1*s(35)*s(21)

sfunc(22)=k2*s(18)+k1*s(19)*s(4)+k1*s(20)*s(3)-k3*s(22)+k2*s(26)+k2*s(33)-k1*s(35)*s(22)-k1*s(92)*s(22)-k1*s(135)*s(22)

sfunc(23)=k3*s(19)+k1*s(21)*s(3)-k1*s(23)*s(4)-k2*s(23)-k1*s(35)*s(23)-k1*s(92)*s(23)-k1*s(135)*s(23)

sfunc(24)=k3*s(20)+k1*s(21)*s(4)-k1*s(24)*s(3)-k2*s(24)-k1*s(35)*s(24)-k1*s(135)*s(24)

sfunc(25)=k2*s(21)+k2*s(23)+k2*s(24)-k1*s(25)*s(2)-k7*s(25)*s(5)-k1*s(25)*s(8)-k1*s(25)*s(11)-k1*s(25)*s(14)-k1*s(25)*s(15)-k1*s(25)*s(18)+k2*s(26)+k2*s(30)+k2*s(31)+k2*s(32)+k2*s(33)-k1*s(41)*s(25)-k1*s(43)*s(25)-k1*s(46)*s(25)+k2*s(49)+k2*s(51)+k2*s(52)+k2*s(53)+k2*s(54)+k2*s(55)+k2*s(56)+k2*s(57)-k1*s(62)*s(25)-k1*s(63)*s(25)-k1*s(68)*s(25)+k2*s(74)+k2*s(75)+k2*s(76)+k2*s(77)+k2*s(78)+k2*s(79)-k1*s(97)*s(25)-k1*s(99)*s(25)+k2*s(102)+k2*s(103)+k2*s(104)+k2*s(105)-k1*s(107)*s(25)-k1*s(109)*s(25)+k2*s(112)+k2*s(113)+k2*s(114)+k2*s(115)-k1*s(117)*s(25)-k1*s(120)*s(25)+k2*s(124)+k2*s(125)+k2*s(126)+k2*s(127)-k1*s(139)*s(25)-k1*s(142)*s(25)-k1*s(143)*s(25)-k1*s(146)*s(25)+k2*s(149)+k2*s(151)+k2*s(152)+k2*s(153)+k2*s(154)+k2*s(155)+k2*s(156)+k2*s(157)-k1*s(159)*s(25)-k1*s(162)*s(25)-k1*s(163)*s(25)-k1*s(166)*s(25)+k2*s(169)+k2*s(172)+k2*s(173)+k2*s(174)+k2*s(175)+k2*s(176)+k2*s(177)-k1*s(186)*s(25)+k2*s(190)+k2*s(191)+k2*s(192)+k2*s(193)-k1*s(205)*s(25)-k1*s(207)*s(25)+k2*s(210)+k2*s(211)+k2*s(212)+k2*s(213)-k1*s(215)*s(25)-k1*s(217)*s(25)+k2*s(220)+k2*s(221)+k2*s(222)+k2*s(223)-k1*s(225)*s(25)-k1*s(228)*s(25)+k2*s(233)+k2*s(234)+k2*s(235)-k1*s(247)*s(25)-k1*s(248)*s(25)-k1*s(252)*s(25)-k1*s(253)*s(25)-k1*s(254)*s(25)+k2*s(261)+k2*s(262)+k2*s(264)+k2*s(265)+k2*s(266)+k2*s(267)+k2*s(268)+k2*s(269)+k2*s(270)+k2*s(271)+k2*s(272)-k1*s(281)*s(25)-k1*s(282)*s(25)-k1*s(285)*s(25)+k2*s(288)+k2*s(290)+k2*s(291)+k2*s(292)+k2*s(293)+k2*s(294)+k2*s(295)+k2*s(296)-k1*s(314)*s(25)-k1*s(315)*s(25)+k2*s(318)+k2*s(319)+k2*s(320)+k2*s(321)-k1*s(324)*s(25)-k1*s(325)*s(25)+k2*s(328)+k2*s(329)+k2*s(330)+k2*s(331)-k1*s(334)*s(25)+k2*s(338)+k2*s(339)-k1*s(350)*s(25)-k1*s(351)*s(25)+k2*s(355)+k2*s(357)+k2*s(358)+k2*s(359)-k1*s(364)*s(25)+k2*s(378)+k2*s(379)-k1*s(388)*s(25)+k2*s(392)+k2*s(393)+k2*s(394)+k2*s(395)+k2*s(397)+k2*s(398)+k2*s(406)

sfunc(26)=k3*s(22)+k1*s(23)*s(4)+k1*s(24)*s(3)-k2*s(26)-k1*s(35)*s(26)-k1*s(92)*s(26)

-k1*s(135)*s(26)

sfunc(27)=k1*s(25)*s(2)-k1*s(27)*s(1)-k1*s(27)*s(12)-k1*s(27)*s(13)-k1*s(27)*s(17)-k1*s(138)*s(27)-k1*s(140)*s(27)-k1*s(141)*s(27)-k1*s(204)*s(27)-k1*s(206)*s(27)-k1*s(242)*s(27)-k1*s(245)*s(27)-k1*s(249)*s(27)-k1*s(250)*s(27)

sfunc(28)=k7*s(25)*s(5)-k2*s(28)

sfunc(29)=k1*s(25)*s(8)-k2*s(29)

sfunc(30)=k1*s(25)*s(11)+k1*s(27)*s(1)-k1*s(30)*s(3)-k1*s(30)*s(4)-k2*s(30)-k1*s(35)*s(30)-k1*s(135)*s(30)

sfunc(31)=k1*s(25)*s(14)+k1*s(27)*s(12)+k1*s(30)*s(3)-k1*s(31)*s(4)-k2*s(31)-k1*s(35)*s(31)-k1*s(92)*s(31)-k1*s(135)*s(31)

sfunc(32)=k1*s(25)*s(15)+k1*s(27)*s(13)+k1*s(30)*s(4)-k1*s(32)*s(3)-k2*s(32)-k1*s(35)*s(32)-k1*s(135)*s(32)

sfunc(33)=k1*s(25)*s(18)+k1*s(27)*s(17)+k1*s(31)*s(4)+k1*s(32)*s(3)-k2*s(33)-k1*s(35)*s(33)-k1*s(92)*s(33)-k1*s(135)*s(33)

sfunc(34)=k2*s(28)

sfunc(35)=k2*s(28)-k1*s(35)*s(1)-k1*s(35)*s(11)-k1*s(35)*s(12)-k1*s(35)*s(13)-k1*s(35)*s(14)-k1*s(35)*s(15)-k1*s(35)*s(16)-k1*s(35)*s(17)-k1*s(35)*s(18)-k1*s(35)*s(19)-k1*s(35)*s(20)-k1*s(35)*s(21)-k1*s(35)*s(22)-k1*s(35)*s(23)-k1*s(35)*s(24)-k1*s(35)*s(26)-k1*s(35)*s(30)-k1*s(35)*s(31)-k1*s(35)*s(32)-k1*s(35)*s(33)-k1*s(96)*s(35)-k1*s(97)*s(35)-k1*s(98)*s(35)-k1*s(99)*s(35)-k1*s(100)*s(35)-k1*s(101)*s(35)-k1*s(102)*s(35)-k1*s(103)*s(35)-k1*s(104)*s(35)-k1*s(105)*s(35)-k1*s(138)*s(35)-k1*s(139)*s(35)-k1*s(140)*s(35)-k1*s(141)*s(35)-k1*s(142)*s(35)-k1*s(143)*s(35)-k1*s(144)*s(35)-k1*s(145)*s(35)-k1*s(146)*s(35)-k1*s(147)*s(35)-k1*s(148)*s(35)-k1*s(149)*s(35)-k1*s(150)*s(35)-k1*s(151)*s(35)-k1*s(152)*s(35)-k1*s(153)*s(35)-k1*s(154)*s(35)-k1*s(156)*s(35)-k1*s(157)*s(35)-k1*s(204)*s(35)-k1*s(205)*s(35)-k1*s(206)*s(35)-k1*s(207)*s(35)-k1*s(208)*s(35)-k1*s(209)*s(35)-k1*s(210)*s(35)-k1*s(211)*s(35)-k1*s(212)*s(35)-k1*s(213)*s(35)-k1*s(242)*s(35)-k1*s(245)*s(35)-k1*s(246)*s(35)-k1*s(248)*s(35)-k1*s(249)*s(35)-k1*s(250)*s(35)-

k1*s(252)*s(35)-k1*s(253)*s(35)-k1*s(255)*s(35)-k1*s(257)*s(35)-k1*s(258)*s(35)-k1*s(260)*s(35)-k1*s(262)*s(35)-k1*s(263)*s(35)-k1*s(264)*s(35)-k1*s(265)*s(35)-k1*s(267)*s(35)-k1*s(269)*s(35)-k1*s(270)*s(35)-k1*s(271)*s(35)-k1*s(312)*s(35)-k1*s(313)*s(35)-k1*s(314)*s(35)-k1*s(315)*s(35)-k1*s(316)*s(35)-k1*s(317)*s(35)-k1*s(318)*s(35)-k1*s(319)*s(35)-k1*s(320)*s(35)-k1*s(321)*s(35)-k1*s(155)*s(35)

sfunc(36)=k2*s(29)

sfunc(37)=k2*s(29)

sfunc(38)=k1*s(35)*s(1)-k1*s(38)*s(3)-k1*s(38)*s(4)-k2*s(38)-k4*s(38)-k1*s(135)*s(38)

sfunc(39)=k1*s(35)*s(11)-k1*s(39)*s(3)-k1*s(39)*s(4)-k2*s(39)-k4*s(39)-k1*s(135)*s(39)

sfunc(40)=k1*s(35)*s(12)-k1*s(40)*s(4)-k2*s(40)-k5*s(40)-k1*s(92)*s(40)-k1*s(135)*s(40)

sfunc(41)=k1*s(35)*s(13)+k1*s(38)*s(4)-k1*s(41)*s(3)-k2*s(41)-k4*s(41)-k1*s(135)*s(41)

sfunc(42)=k1*s(35)*s(14)-k1*s(42)*s(4)-k1*s(42)*s(25)-k2*s(42)-k5*s(42)-k1*s(92)*s(42)-k1*s(135)*s(42)

sfunc(43)=k1*s(35)*s(15)+k1*s(39)*s(4)-k1*s(43)*s(3)-k1*s(43)*s(25)-k2*s(43)-k4*s(43)-k1*s(135)*s(43)

sfunc(44)=k1*s(35)*s(16)+k2*s(39)-k1*s(44)*s(3)-k1*s(44)*s(4)-k3*s(44)-k4*s(44)+k2*s(49)+k2*s(54)-k1*s(135)*s(44)

sfunc(45)=k1*s(35)*s(17)+k1*s(40)*s(4)-k2*s(45)-k5*s(45)-k1*s(92)*s(45)-k1*s(135)*s(45)

sfunc(46)=k1*s(35)*s(18)+k1*s(42)*s(4)-k1*s(46)*s(25)-k2*s(46)-k5*s(46)-k1*s(92)*s(46)-k1*s(135)*s(46)

sfunc(47)=k1*s(35)*s(19)-k1*s(47)*s(4)-k3*s(47)-k5*s(47)+k2*s(51)+k2*s(55)-k1*s(92)*

s(47)-k1*s(135)*s(47)

sfunc(48)=k1*s(35)*s(20)+k2*s(43)+k1*s(44)*s(4)-k1*s(48)*s(3)-k3*s(48)-k4*s(48)+k2*s(52)+k2*s(56)-k1*s(135)*s(48)

sfunc(49)=k1*s(35)*s(21)+k3*s(44)-k1*s(49)*s(3)-k1*s(49)*s(4)-k2*s(49)-k4*s(49)-k1*s(135)*s(49)

sfunc(50)=k1*s(35)*s(22)+k2*s(46)+k1*s(47)*s(4)-k3*s(50)-k5*s(50)+k2*s(53)+k2*s(57)-k1*s(92)*s(50)-k1*s(135)*s(50)

sfunc(51)=k1*s(35)*s(23)+k3*s(47)-k1*s(51)*s(4)-k2*s(51)-k5*s(51)-k1*s(92)*s(51)-k1*s(135)*s(51)

sfunc(52)=k1*s(35)*s(24)+k3*s(48)+k1*s(49)*s(4)-k1*s(52)*s(3)-k2*s(52)-k4*s(52)-k1*s(135)*s(52)

sfunc(53)=k1*s(35)*s(26)+k3*s(50)+k1*s(51)*s(4)-k2*s(53)-k5*s(53)-k1*s(92)*s(53)-k1*s(135)*s(53)

sfunc(54)=k1*s(35)*s(30)-k1*s(54)*s(3)-k1*s(54)*s(4)-k2*s(54)-k4*s(54)-k1*s(135)*s(54)

sfunc(55)=k1*s(35)*s(31)+k1*s(42)*s(25)-k1*s(55)*s(4)-k2*s(55)-k5*s(55)-k1*s(92)*s(55)-k1*s(135)*s(55)

sfunc(56)=k1*s(35)*s(32)+k1*s(43)*s(25)+k1*s(54)*s(4)-k1*s(56)*s(3)-k2*s(56)-k4*s(56)-k1*s(135)*s(56)

sfunc(57)=k1*s(35)*s(33)+k1*s(46)*s(25)+k1*s(55)*s(4)-k2*s(57)-k5*s(57)-k1*s(92)*s(57)-k1*s(135)*s(57)

sfunc(58)=k1*s(38)*s(3)+k5*s(40)-k1*s(58)*s(4)-k2*s(58)-k4*s(58)-k1*s(92)*s(58)-k1*s(135)*s(58)

sfunc(59)=k2*s(38)-k1*s(59)*s(3)-k1*s(59)*s(4)-k4*s(59)-k1*s(135)*s(59)

sfunc(60)=k4*s(38)+k4*s(39)+k4*s(44)+k4*s(49)+k4*s(54)+k4*s(59)-k1*s(60)*s(3)-k1*s(60)*s(4)-k1*s(135)*s(60)

sfunc(61)=k4*s(38)+k4*s(41)+k4*s(58)-k2*s(61)+k4*s(65)+k4*s(116)+k4*s(119)+k4*s(158)+k4*s(161)+k4*s(178)+k4*s(183)+k4*s(224)+k4*s(227)+k4*s(273)+k4*s(274)+k4*s(284)+k4*s(332)+k4*s(375)+k4*s(385)

sfunc(62)=k1*s(39)*s(3)+k5*s(42)-k1*s(62)*s(4)-k1*s(62)*s(25)-k2*s(62)-k4*s(62)-k1*s(92)*s(62)-k1*s(135)*s(62)

sfunc(63)=k4*s(39)+k4*s(43)+k4*s(62)-k1*s(63)*s(25)-k2*s(63)+k4*s(68)+k4*s(117)+k4*s(120)+k4*s(121)+k4*s(159)+k4*s(163)+k4*s(181)+k4*s(186)+k4*s(225)+k4*s(228)+k4*s(275)+k4*s(334)+k4*s(364)+k4*s(376)+k4*s(387)+k4*s(388)

sfunc(64)=k2*s(40)-k1*s(64)*s(4)-k5*s(64)-k1*s(92)*s(64)-k1*s(135)*s(64)

sfunc(65)=k1*s(41)*s(3)+k5*s(45)+k1*s(58)*s(4)-k2*s(65)-k4*s(65)-k1*s(92)*s(65)-k1*s(135)*s(65)

sfunc(66)=k2*s(41)+k1*s(59)*s(4)-k1*s(66)*s(3)-k4*s(66)-k1*s(135)*s(66)

sfunc(67)=k4*s(41)+k4*s(43)+k4*s(48)+k4*s(52)+k4*s(56)+k1*s(60)*s(4)+k4*s(66)-k1*s(67)*s(3)-k1*s(135)*s(67)

sfunc(68)=k1*s(43)*s(3)+k5*s(46)+k1*s(62)*s(4)-k1*s(68)*s(25)-k2*s(68)-k4*s(68)-k1*s(92)*s(68)-k1*s(135)*s(68)

sfunc(69)=0 //missing number

sfunc(70)=k1*s(44)*s(3)+k5*s(47)+k2*s(62)-k1*s(70)*s(4)-k3*s(70)-k4*s(70)+k2*s(74)+k2*s(77)-k1*s(92)*s(70)-k1*s(135)*s(70)

sfunc(71)=k4*s(44)+k4*s(48)+k2*s(63)+k4*s(70)-k3*s(71)+k5*s(73)+k2*s(75)+k2*s(78)+k4*s(123)+k4*s(187)+k4*s(189)+k4*s(229)+k4*s(231)+k2*s(276)+k4*s(283)+k4*s(337)+k4*s(354)+k4*s(365)+k4*s(366)+k4*s(377)+k4*s(390)+k4*s(391)+k4*s(399)+k4*s(405)

sfunc(72)=k2*s(45)+k1*s(64)*s(4)-k5*s(72)-k1*s(92)*s(72)-k1*s(135)*s(72)

sfunc(73)=k1*s(48)*s(3)+k5*s(50)+k2*s(68)+k1*s(70)*s(4)-k3*s(73)-k5*s(73)+k2*s(76)+k2*s(79)-k1*s(92)*s(73)-k1*s(135)*s(73)

sfunc(74)=k1*s(49)*s(3)+k5*s(51)+k3*s(70)-k1*s(74)*s(4)-k2*s(74)-k4*s(74)-k1*s(92)*s(74)-k1*s(135)*s(74)

sfunc(75)=k4*s(49)+k4*s(52)+k3*s(71)+k4*s(74)-k2*s(75)+k4*s(76)+k4*s(124)+k4*s(125)+k4*s(168)+k4*s(169)+k4*s(172)+k4*s(190)+k4*s(191)+k4*s(232)+k4*s(233)+k4*s(288)+k4*s(292)+k4*s(338)+k4*s(357)+k4*s(366)+k4*s(378)+k4*s(392)+k4*s(393)+k4*s(406)

sfunc(76)=k1*s(52)*s(3)+k5*s(53)+k3*s(73)+k1*s(74)*s(4)-k2*s(76)-k4*s(76)-k1*s(92)*s(76)-k1*s(135)*s(76)

sfunc(77)=k1*s(54)*s(3)+k5*s(55)+k1*s(62)*s(25)-k1*s(77)*s(4)-k2*s(77)-k4*s(77)-k1*s(92)*s(77)-k1*s(135)*s(77)

sfunc(78)=k4*s(54)+k4*s(56)+k1*s(63)*s(25)+k4*s(77)-k2*s(78)+k4*s(79)+k4*s(126)+k4*s(127)+k4*s(174)+k4*s(176)+k4*s(192)+k4*s(193)+k4*s(234)+k4*s(235)+k4*s(293)+k4*s(339)+k4*s(360)+k4*s(368)+k4*s(379)+k4*s(394)+k4*s(395)+k4*s(397)+k4*s(398)

sfunc(79)=k1*s(56)*s(3)+k5*s(57)+k1*s(68)*s(25)+k1*s(77)*s(4)-k2*s(79)-k4*s(79)-k1*s(92)*s(79)-k1*s(135)*s(79)

sfunc(80)=k2*s(58)+k1*s(59)*s(3)+k5*s(64)-k1*s(80)*s(4)-k4*s(80)-k1*s(92)*s(80)-k1*s(135)*s(80)

sfunc(81)=k4*s(58)+k1*s(60)*s(3)+k4*s(62)+k4*s(70)+k4*s(74)+k4*s(77)+k4*s(80)-k1*s(81)*s(4)-k6*s(81)-k1*s(92)*s(81)-k1*s(135)*s(81)

sfunc(82)=k4*s(59)+k2*s(61)+k4*s(66)+k4*s(80)+k4*s(83)+k4*s(128)+k4*s(130)+k4*s(179)+k4*s(184)+k4*s(194)+k4*s(196)+k4*s(236)+k4*s(238)+k4*s(298)+k4*s(304)+k4*s(340)+k2*s(362)+k4*s(371)+k4*s(372)+k4*s(380)+k4*s(400)+k4*s(401)+k4*s(403)

sfunc(83)=k2*s(65)+k1*s(66)*s(3)+k5*s(72)-k4*s(83)-k1*s(92)*s(83)-k1*s(135)*s(83)

sfunc(84)=k4*s(65)+k1*s(67)*s(3)+k4*s(68)+k5*s(73)+k4*s(76)+k4*s(79)+k1*s(80)*s(4)
+k1*s(81)*s(4)+k4*s(83)-k5*s(84)-k1*s(92)*s(84)-k1*s(135)*s(84)

sfunc(85)=k6*s(81)-k1*s(85)*s(4)-k2*s(85)-k1*s(92)*s(85)-k1*s(135)*s(85)

sfunc(86)=k6*s(81)+k5*s(84)+k6*s(129)+k6*s(131)+k5*s(180)+k5*s(195)+k5*s(237)+k5
*s(239)+k6*s(277)+k5*s(341)+k5*s(345)+k6*s(333)

sfunc(87)=k5*s(84)+k1*s(85)*s(4)-k2*s(87)-k1*s(92)*s(87)-k1*s(135)*s(87)

sfunc(88)=k2*s(85)-k1*s(88)*s(4)-k3*s(88)+k2*s(90)+k2*s(132)-k1*s(135)*s(88)

sfunc(89)=k2*s(87)+k1*s(88)*s(4)-k3*s(89)+k2*s(91)+k2*s(133)-k1*s(135)*s(89)

sfunc(90)=k3*s(88)-k1*s(90)*s(4)-k2*s(90)-k1*s(135)*s(90)

sfunc(91)=k3*s(89)+k1*s(90)*s(4)-k2*s(91)-k1*s(135)*s(91)

sfunc(92)=k2*s(90)+k2*s(91)-k1*s(92)*s(3)-k7*s(92)*s(6)-k1*s(92)*s(9)-k1*s(92)*s(12)-k
1*s(92)*s(14)-k1*s(92)*s(17)-k1*s(92)*s(18)-k1*s(92)*s(19)-k1*s(92)*s(22)-k1*s(92)*s(2
3)-k1*s(92)*s(26)-k1*s(92)*s(31)-k1*s(92)*s(33)-k1*s(92)*s(40)-k1*s(92)*s(42)-k1*s(92)*
s(45)-k1*s(92)*s(46)-k1*s(92)*s(47)-k1*s(92)*s(50)-k1*s(92)*s(51)-k1*s(92)*s(53)-k1*s(9
2)*s(55)-k1*s(92)*s(57)-k1*s(92)*s(58)-k1*s(92)*s(62)-k1*s(92)*s(64)-k1*s(92)*s(65)-k1*
s(92)*s(68)-k1*s(92)*s(70)-k1*s(92)*s(72)-k1*s(92)*s(73)-k1*s(92)*s(74)-k1*s(92)*s(76)-
k1*s(92)*s(77)-k1*s(92)*s(79)-k1*s(92)*s(80)-k1*s(92)*s(81)-k1*s(92)*s(83)-k1*s(92)*s(
84)-k1*s(92)*s(85)-k1*s(92)*s(87)+k2*s(132)+k2*s(133)-k1*s(140)*s(92)-k1*s(142)*s(92
)-k1*s(145)*s(92)-k1*s(146)*s(92)-k1*s(147)*s(92)-k1*s(150)*s(92)-k1*s(151)*s(92)-k1*s
(153)*s(92)-k1*s(155)*s(92)-k1*s(157)*s(92)-k1*s(160)*s(92)-k1*s(162)*s(92)-k1*s(165)*
s(92)-k1*s(166)*s(92)-k1*s(167)*s(92)-k1*s(170)*s(92)-k1*s(171)*s(92)-k1*s(173)*s(92)-
k1*s(175)*s(92)-k1*s(177)*s(92)-k1*s(178)*s(92)-k1*s(181)*s(92)-k1*s(182)*s(92)-k1*s(
183)*s(92)-k1*s(186)*s(92)-k1*s(187)*s(92)-k1*s(188)*s(92)-k1*s(189)*s(92)-k1*s(190)*
s(92)-k1*s(191)*s(92)-k1*s(192)*s(92)-k1*s(193)*s(92)-k1*s(194)*s(92)-k1*s(195)*s(92)-
k1*s(196)*s(92)-k1*s(197)*s(92)-k1*s(198)*s(92)-k1*s(199)*s(92)+k2*s(202)+k2*s(203)+
k2*s(240)+k2*s(241)-k1*s(249)*s(92)-k1*s(250)*s(92)-k1*s(252)*s(92)-k1*s(253)*s(92)-

k1*s(263)*s(92)-k1*s(264)*s(92)-k1*s(265)*s(92)-k1*s(270)*s(92)-k1*s(271)*s(92)-k1*s(274)*s(92)-k1*s(278)*s(92)-k1*s(279)*s(92)-k1*s(281)*s(92)-k1*s(282)*s(92)-k1*s(284)*s(92)-k1*s(285)*s(92)-k1*s(286)*s(92)-k1*s(287)*s(92)-k1*s(289)*s(92)-k1*s(290)*s(92)-k1*s(291)*s(92)-k1*s(292)*s(92)-k1*s(294)*s(92)-k1*s(295)*s(92)-k1*s(296)*s(92)-k1*s(297)*s(92)-k1*s(301)*s(92)-k1*s(302)*s(92)-k1*s(304)*s(92)-k1*s(305)*s(92)-k1*s(306)*s(92)-k1*s(307)*s(92)+k2*s(310)+k2*s(311)+k2*s(342)+k2*s(343)-k1*s(364)*s(92)-k1*s(365)*s(92)-k1*s(366)*s(92)-k1*s(367)*s(92)-k1*s(368)*s(92)-k1*s(372)*s(92)+k2*s(374)-k1*s(397)*s(92)-k1*s(399)*s(92)-k1*s(406)*s(92)

sfunc(93)=k1*s(92)*s(3)-k1*s(93)*s(1)-k1*s(93)*s(11)-k1*s(93)*s(13)-k1*s(93)*s(15)-k1*s(93)*s(16)-k1*s(93)*s(20)-k1*s(93)*s(21)-k1*s(93)*s(24)-k1*s(93)*s(30)-k1*s(93)*s(32)-k1*s(93)*s(38)-k1*s(93)*s(39)-k1*s(93)*s(41)-k1*s(93)*s(43)-k1*s(93)*s(44)-k1*s(93)*s(48)-k1*s(93)*s(49)-k1*s(93)*s(52)-k1*s(93)*s(54)-k1*s(93)*s(56)-k1*s(93)*s(59)-k1*s(93)*s(60)-k1*s(93)*s(66)-k1*s(93)*s(67)

sfunc(94)=k7*s(92)*s(6)-k2*s(94)

sfunc(95)=k1*s(92)*s(9)-k2*s(95)

sfunc(96)=k1*s(92)*s(12)+k1*s(93)*s(1)-k1*s(96)*s(2)-k1*s(96)*s(4)-k1*s(96)*s(35)-k1*s(135)*s(96)

sfunc(97)=k1*s(92)*s(14)+k1*s(93)*s(11)+k1*s(96)*s(2)-k1*s(97)*s(4)-k1*s(97)*s(25)-k1*s(97)*s(35)-k2*s(97)-k1*s(135)*s(97)

sfunc(98)=k1*s(92)*s(17)+k1*s(93)*s(13)+k1*s(96)*s(4)-k1*s(98)*s(2)-k1*s(98)*s(35)-k1*s(135)*s(98)

sfunc(99)=k1*s(92)*s(18)+k1*s(93)*s(15)+k1*s(97)*s(4)+k1*s(98)*s(2)-k1*s(99)*s(25)-k1*s(99)*s(35)-k2*s(99)-k1*s(135)*s(99)

sfunc(100)=k1*s(92)*s(19)+k1*s(93)*s(16)+k2*s(97)-k1*s(100)*s(4)-k1*s(100)*s(35)-k3*s(100)+k2*s(102)+k2*s(104)-k1*s(135)*s(100)

sfunc(101)=k1*s(92)*s(22)+k1*s(93)*s(20)+k2*s(99)+k1*s(100)*s(4)-k1*s(101)*s(35)-k3*s(101)+k2*s(103)+k2*s(105)-k1*s(135)*s(101)

sfunc(102)=k1*s(92)*s(23)+k1*s(93)*s(21)+k3*s(100)-k1*s(102)*s(4)-k1*s(102)*s(35)-k2*s(102)-k1*s(135)*s(102)

sfunc(103)=k1*s(92)*s(26)+k1*s(93)*s(24)+k3*s(101)+k1*s(102)*s(4)-k1*s(103)*s(35)-k2*s(103)-k1*s(135)*s(103)

sfunc(104)=k1*s(92)*s(31)+k1*s(93)*s(30)+k1*s(97)*s(25)-k1*s(104)*s(4)-k1*s(104)*s(35)-k2*s(104)-k1*s(135)*s(104)

sfunc(105)=k1*s(92)*s(33)+k1*s(93)*s(32)+k1*s(99)*s(25)+k1*s(104)*s(4)-k1*s(105)*s(35)-k2*s(105)-k1*s(135)*s(105)

sfunc(106)=k1*s(92)*s(40)+k1*s(96)*s(35)-k1*s(106)*s(4)-k2*s(106)-k5*s(106)-k1*s(135)*s(106)

sfunc(107)=k1*s(92)*s(42)+k1*s(97)*s(35)-k1*s(107)*s(4)-k1*s(107)*s(25)-k2*s(107)-k5*s(107)-k1*s(135)*s(107)

sfunc(108)=k1*s(92)*s(45)+k1*s(98)*s(35)+k1*s(106)*s(4)-k2*s(108)-k5*s(108)-k1*s(135)*s(108)

sfunc(109)=k1*s(92)*s(46)+k1*s(99)*s(35)+k1*s(107)*s(4)-k1*s(109)*s(25)-k2*s(109)-k5*s(109)-k1*s(135)*s(109)

sfunc(110)=k1*s(92)*s(47)+k1*s(100)*s(35)+k2*s(107)-k1*s(110)*s(4)-k3*s(110)-k5*s(110)+k2*s(112)+k2*s(114)-k1*s(135)*s(110)

sfunc(111)=k1*s(92)*s(50)+k1*s(101)*s(35)+k2*s(109)+k1*s(110)*s(4)-k3*s(111)-k5*s(111)+k2*s(113)+k2*s(115)-k1*s(135)*s(111)

sfunc(112)=k1*s(92)*s(51)+k1*s(102)*s(35)+k3*s(110)-k1*s(112)*s(4)-k2*s(112)-k5*s(112)-k1*s(135)*s(112)

sfunc(113)=k1*s(92)*s(53)+k3*s(111)+k1*s(112)*s(4)-k2*s(113)-k5*s(113)-k1*s(135)*s(113)

sfunc(114)=k1*s(92)*s(55)+k1*s(104)*s(35)+k1*s(107)*s(25)-k1*s(114)*s(4)-k2*s(114)-k5*s(114)-k1*s(135)*s(114)

sfunc(115)=k1*s(92)*s(57)+k1*s(105)*s(35)+k1*s(109)*s(25)+k1*s(114)*s(4)-k2*s(115)-k5*s(115)-k1*s(135)*s(115)

sfunc(116)=k1*s(92)*s(58)+k1*s(93)*s(38)+k5*s(106)-k1*s(116)*s(4)-k2*s(116)-k4*s(116)-k1*s(135)*s(116)

sfunc(117)=k1*s(92)*s(62)+k1*s(93)*s(39)+k5*s(107)-k1*s(117)*s(4)-k1*s(117)*s(25)-k2*s(117)-k4*s(117)-k1*s(135)*s(117)

sfunc(118)=k1*s(92)*s(64)+k2*s(106)-k1*s(118)*s(4)-k5*s(118)-k1*s(135)*s(118)

sfunc(119)=k1*s(92)*s(65)+k1*s(93)*s(41)+k5*s(108)+k1*s(116)*s(4)-k2*s(119)-k4*s(119)-k1*s(135)*s(119)

sfunc(120)=k1*s(92)*s(68)+k1*s(93)*s(43)+k5*s(109)+k1*s(117)*s(4)-k1*s(120)*s(25)-k2*s(120)-k4*s(120)-k1*s(135)*s(120)

sfunc(121)=k1*s(92)*s(70)+k1*s(93)*s(44)+k5*s(110)+k2*s(117)-k1*s(121)*s(4)-k3*s(121)-k4*s(121)+k2*s(124)+k2*s(126)-k1*s(135)*s(121)

sfunc(122)=k1*s(92)*s(72)+k2*s(108)+k1*s(118)*s(4)-k5*s(122)-k1*s(135)*s(122)

sfunc(123)=k1*s(92)*s(73)+k1*s(93)*s(48)+k5*s(111)+k2*s(120)+k1*s(121)*s(4)-k3*s(123)-k4*s(123)+k2*s(125)+k2*s(127)-k1*s(135)*s(123)

sfunc(124)=k1*s(92)*s(74)+k1*s(93)*s(49)+k5*s(112)+k3*s(121)-k1*s(124)*s(4)-k2*s(124)-k4*s(124)-k1*s(135)*s(124)

sfunc(125)=k1*s(92)*s(76)+k1*s(93)*s(52)+k5*s(113)+k3*s(123)+k1*s(124)*s(4)-k2*s(125)-k4*s(125)-k1*s(135)*s(125)

sfunc(126)=k1*s(92)*s(77)+k1*s(93)*s(54)+k5*s(114)+k1*s(117)*s(25)-k1*s(126)*s(4)-k2

*s(126)-k4*s(126)-k1*s(135)*s(126)

sfunc(127)=k1*s(92)*s(79)+k1*s(93)*s(56)+k5*s(115)+k1*s(120)*s(25)+k1*s(126)*s(4)-k2*s(127)-k4*s(127)-k1*s(135)*s(127)

sfunc(128)=k1*s(92)*s(80)+k1*s(93)*s(59)+k2*s(116)+k5*s(118)-k1*s(128)*s(4)-k4*s(128)-k1*s(135)*s(128)

sfunc(129)=k1*s(92)*s(81)+k1*s(93)*s(60)+k4*s(116)+k4*s(117)+k4*s(121)+k4*s(124)+k4*s(126)+k4*s(128)-k1*s(129)*s(4)-k6*s(129)-k1*s(135)*s(129)

sfunc(130)=k1*s(92)*s(83)+k1*s(93)*s(66)+k2*s(119)+k5*s(122)+k1*s(128)*s(4)-k4*s(130)-k1*s(135)*s(130)

sfunc(131)=k1*s(92)*s(84)+k1*s(93)*s(67)+k4*s(119)+k4*s(120)+k4*s(123)+k4*s(125)+k4*s(127)+k1*s(129)*s(4)+k4*s(130)-k6*s(131)-k1*s(135)*s(131)

sfunc(132)=k1*s(92)*s(85)+k6*s(129)-k1*s(132)*s(4)-k2*s(132)-k1*s(135)*s(132)

sfunc(133)=k1*s(92)*s(87)+k1*s(103)*s(35)+k6*s(131)+k1*s(132)*s(4)-k2*s(133)-k1*s(135)*s(133)

sfunc(134)=k2*s(94)

sfunc(135)=k2*s(94)-k1*s(135)*s(1)-k1*s(135)*s(11)-k1*s(135)*s(12)-k1*s(135)*s(13)-k1*s(135)*s(14)-k1*s(135)*s(15)-k1*s(135)*s(16)-k1*s(135)*s(17)-k1*s(135)*s(18)-k1*s(135)*s(19)-k1*s(135)*s(20)-k1*s(135)*s(21)-k1*s(135)*s(22)-k1*s(135)*s(23)-k1*s(135)*s(24)-k1*s(135)*s(26)-k1*s(135)*s(30)-k1*s(135)*s(31)-k1*s(135)*s(32)-k1*s(135)*s(33)-k1*s(135)*s(38)-k1*s(135)*s(39)-k1*s(135)*s(40)-k1*s(135)*s(41)-k1*s(135)*s(42)-k1*s(135)*s(43)-k1*s(135)*s(44)-k1*s(135)*s(45)-k1*s(135)*s(46)-k1*s(135)*s(47)-k1*s(135)*s(48)-k1*s(135)*s(49)-k1*s(135)*s(50)-k1*s(135)*s(51)-k1*s(135)*s(52)-k1*s(135)*s(53)-k1*s(135)*s(54)-k1*s(135)*s(55)-k1*s(135)*s(56)-k1*s(135)*s(57)-k1*s(135)*s(58)-k1*s(135)*s(59)-k1*s(135)*s(60)-k1*s(135)*s(62)-k1*s(135)*s(64)-k1*s(135)*s(65)-k1*s(135)*s(66)-k1*s(135)*s(67)-k1*s(135)*s(68)-k1*s(135)*s(70)-k1*s(135)*s(72)-k1*s(135)*s(73)-k1*s(135)*s(74)-k1*s(135)*s(76)-k1*s(135)*s(77)-k1*s(135)*s(79)-k1*s(135)*s(80)-k1*s(135)*s(81)-k1*s(135)*s(83)-k1*s(135)*s(84)-k1*s(135)*s(85)-k1*s(135)*s(87)-k1*s(135)*s(88)-

k1*s(135)*s(89)-k1*s(135)*s(90)-k1*s(135)*s(91)-k1*s(135)*s(96)-k1*s(135)*s(97)-k1*s(135)*s(98)-k1*s(135)*s(99)-k1*s(135)*s(100)-k1*s(135)*s(101)-k1*s(135)*s(102)-k1*s(135)*s(103)-k1*s(135)*s(104)-k1*s(135)*s(105)-k1*s(135)*s(106)-k1*s(135)*s(107)-k1*s(135)*s(108)-k1*s(135)*s(109)-k1*s(135)*s(110)-k1*s(135)*s(111)-k1*s(135)*s(112)-k1*s(135)*s(113)-k1*s(135)*s(114)-k1*s(135)*s(115)-k1*s(135)*s(116)-k1*s(135)*s(117)-k1*s(135)*s(118)-k1*s(135)*s(119)-k1*s(135)*s(120)-k1*s(135)*s(121)-k1*s(135)*s(122)-k1*s(135)*s(123)-k1*s(135)*s(124)-k1*s(135)*s(125)-k1*s(135)*s(126)-k1*s(135)*s(127)-k1*s(135)*s(128)-k1*s(135)*s(129)-k1*s(135)*s(130)-k1*s(135)*s(131)-k1*s(135)*s(132)-k1*s(135)*s(133)

sfunc(136)=k2*s(95)

sfunc(137)=k2*s(95)

sfunc(138)=k1*s(135)*s(1)-k1*s(138)*s(2)-k1*s(138)*s(4)-k1*s(138)*s(27)-k1*s(138)*s(35)-k4*s(138)

sfunc(139)=k1*s(135)*s(11)+k1*s(138)*s(2)-k1*s(139)*s(4)-k1*s(139)*s(25)-k1*s(139)*s(35)-k4*s(139)-k2*s(139)

sfunc(140)=k1*s(135)*s(12)-k1*s(140)*s(2)-k1*s(140)*s(4)-k1*s(140)*s(27)-k1*s(140)*s(35)-k1*s(140)*s(92)-k4*s(140)

sfunc(141)=k1*s(135)*s(13)-k1*s(141)*s(2)-k1*s(141)*s(27)-k1*s(141)*s(35)-k5*s(141)

sfunc(142)=k1*s(135)*s(14)+k1*s(140)*s(2)-k1*s(142)*s(4)-k1*s(142)*s(25)-k1*s(142)*s(35)-k1*s(142)*s(92)-k2*s(142)-k4*s(142)

sfunc(143)=k1*s(135)*s(15)+k1*s(141)*s(2)-k1*s(143)*s(25)-k1*s(143)*s(35)-k2*s(143)-k5*s(143)

sfunc(144)=k1*s(135)*s(16)-k1*s(144)*s(4)-k1*s(144)*s(35)-k3*s(144)-k4*s(144)+k2*s(149)+k2*s(154)+k2*s(139)

sfunc(145)=k1*s(135)*s(17)-k1*s(145)*s(2)-k1*s(145)*s(35)-k1*s(145)*s(92)-k5*s(145)

sfunc(146)=k1*s(135)*s(18)+k1*s(145)*s(2)-k1*s(146)*s(25)-k1*s(146)*s(35)-k1*s(146)*s(92)-k2*s(146)-k5*s(146)

sfunc(147)=k1*s(135)*s(19)+k2*s(142)-k1*s(147)*s(35)-k1*s(147)*s(92)-k3*s(151)-k4*s(147)+k2*s(151)+k2*s(155)

sfunc(148)=k1*s(135)*s(20)+k2*s(143)-k1*s(148)*s(35)-k3*s(148)-k5*s(148)+k2*s(152)+k2*s(156)

sfunc(149)=k1*s(135)*s(21)+k3*s(144)-k1*s(149)*s(4)-k1*s(149)*s(35)-k2*s(149)-k4*s(149)

sfunc(150)=k1*s(135)*s(22)+k2*s(146)-k1*s(150)*s(35)-k1*s(150)*s(92)-k3*s(150)-k5*s(150)+k2*s(153)+k2*s(157)

sfunc(151)=k1*s(135)*s(23)+k3*s(151)-k1*s(151)*s(4)-k1*s(151)*s(35)-k1*s(151)*s(92)-k2*s(151)-k4*s(151)

sfunc(152)=k1*s(135)*s(24)+k3*s(148)-k1*s(152)*s(35)-k2*s(152)-k5*s(152)

sfunc(153)=k1*s(135)*s(26)+k3*s(150)-k1*s(153)*s(35)-k1*s(153)*s(92)-k2*s(153)-k5*s(153)

sfunc(154)=k1*s(135)*s(30)+k1*s(138)*s(27)+k1*s(139)*s(25)-k1*s(154)*s(4)-k1*s(154)*s(35)-k2*s(154)-k4*s(154)

sfunc(155)=k1*s(135)*s(31)+k1*s(140)*s(27)+k1*s(142)*s(25)-k1*s(155)*s(4)-k1*s(155)*s(35)-k1*s(155)*s(92)-k2*s(155)-k4*s(155)

sfunc(156)=k1*s(135)*s(32)+k1*s(141)*s(27)+k1*s(143)*s(25)-k1*s(156)*s(35)-k2*s(156)-k5*s(156)

sfunc(157)=k1*s(135)*s(33)+k1*s(146)*s(25)-k1*s(157)*s(35)-k1*s(157)*s(92)-k2*s(157)-k5*s(157)

sfunc(158)=k1*s(135)*s(38)-k1*s(158)*s(4)-k2*s(158)-k4*s(158)+k5*s(243)

sfunc(159)=k1*s(135)*s(39)-k1*s(159)*s(4)-k1*s(159)*s(25)-k2*s(159)-k4*s(159)+k5*s(247)

sfunc(160)=k1*s(135)*s(40)+k1*s(140)*s(35)-k1*s(160)*s(4)-k1*s(160)*s(92)-k2*s(160)-k4*s(160)-k5*s(160)

sfunc(161)=k1*s(135)*s(41)-k2*s(161)-k4*s(161)-k5*s(161)+k5*s(251)

sfunc(162)=k1*s(135)*s(42)+k1*s(142)*s(35)-k1*s(162)*s(4)-k1*s(162)*s(25)-k1*s(162)*s(92)-k2*s(162)-k4*s(162)-k5*s(162)

sfunc(163)=k1*s(135)*s(43)-k1*s(163)*s(25)-k2*s(163)-k4*s(163)-k5*s(163)+k5*s(254)

sfunc(164)=k1*s(135)*s(44)+k2*s(159)-k1*s(164)*s(4)-k3*s(165)-k4*s(165)+k2*s(169)+k2*s(174)

sfunc(165)=k1*s(135)*s(45)+k1*s(145)*s(35)-k1*s(165)*s(92)-k2*s(165)-k5*s(165)

sfunc(166)=k1*s(135)*s(46)+k1*s(146)*s(35)-k1*s(166)*s(25)-k1*s(166)*s(92)-k2*s(166)-k5*s(166)

sfunc(167)=k1*s(135)*s(47)+k1*s(147)*s(35)+k2*s(162)-k1*s(167)*s(4)-k1*s(167)*s(92)-k3*s(167)-k4*s(167)-k5*s(167)+k2*s(171)+k2*s(175)

sfunc(168)=k1*s(135)*s(48)+k2*s(163)-k3*s(168)-k4*s(168)-k5*s(168)+k2*s(172)+k2*s(176)+k5*s(259)+k5*s(266)

sfunc(169)=k1*s(135)*s(49)+k3*s(165)-k1*s(169)*s(4)-k2*s(169)-k4*s(169)

sfunc(170)=k1*s(135)*s(50)+k1*s(150)*s(35)+k2*s(166)-k1*s(170)*s(92)-k3*s(170)-k5*s(170)+k2*s(173)+k2*s(177)

sfunc(171)=k1*s(135)*s(51)+k1*s(151)*s(35)+k3*s(167)-k1*s(171)*s(4)-k1*s(171)*s(92)-k2*s(171)-k4*s(171)-k5*s(171)

sfunc(172)=k1*s(135)*s(52)+k3*s(168)-k2*s(172)-k4*s(172)-k5*s(172)

sfunc(173)=k1*s(135)*s(53)+k1*s(153)*s(35)+k3*s(170)-k2*s(173)-k5*s(173)-k1*s(173)*s(92)

sfunc(174)=k1*s(135)*s(54)+k1*s(159)*s(25)-k1*s(174)*s(4)-k2*s(174)-k4*s(174)

sfunc(175)=k1*s(135)*s(55)+k1*s(155)*s(35)+k1*s(162)*s(25)-k1*s(175)*s(4)-k1*s(175)*s(92)-k2*s(175)-k4*s(175)-k5*s(175)

sfunc(176)=k1*s(135)*s(56)+k1*s(163)*s(25)-k2*s(176)-k4*s(176)-k5*s(176)+k5*s(272)

sfunc(177)=k1*s(135)*s(57)+k1*s(157)*s(35)+k1*s(166)*s(25)-k1*s(177)*s(92)-k2*s(177)-k5*s(177)

sfunc(178)=k1*s(135)*s(58)+k1*s(160)*s(4)-k1*s(178)*s(4)-k1*s(178)*s(92)-k2*s(178)-k4*s(178)

sfunc(179)=k1*s(135)*s(59)+k2*s(158)-k1*s(179)*s(4)-k4*s(179)

sfunc(180)=k1*s(135)*s(60)-k1*s(180)*s(4)-k4*s(180)-k5*s(180)

sfunc(181)=k1*s(135)*s(62)+k5*s(162)+k5*s(175)-k1*s(181)*s(4)-k1*s(181)*s(92)-k2*s(181)-k4*s(181)

sfunc(182)=k1*s(135)*s(64)+k2*s(160)-k1*s(182)*s(4)-k1*s(182)*s(92)-k4*s(182)-k5*s(182)

sfunc(183)=k1*s(135)*s(65)-k1*s(183)*s(92)-k2*s(183)-k4*s(183)-k5*s(183)

sfunc(184)=k1*s(135)*s(66)+k2*s(161)-k4*s(184)-k5*s(184)

sfunc(185)=k1*s(135)*s(67)+k4*s(161)+k4*s(163)+k4*s(168)+k4*s(172)+k4*s(176)+k4*s(184)-k5*s(185)

sfunc(186)=k1*s(135)*s(68)-k1*s(186)*s(25)-k1*s(186)*s(92)-k2*s(186)-k4*s(186)-k5*s(

186)

sfunc(187)=k1*s(135)*s(70)+k5*s(167)+k2*s(181)-k1*s(187)*s(4)-k1*s(187)*s(92)-k3*s(187)-k4*s(187)+k2*s(190)+k2*s(192)

sfunc(188)=k1*s(135)*s(72)+k2*s(165)-k1*s(188)*s(92)-k5*s(188)

sfunc(189)=k1*s(135)*s(73)+k5*s(170)+k2*s(186)-k1*s(189)*s(92)-k3*s(189)-k4*s(189)-k5*s(189)+k2*s(191)+k2*s(193)+k2*s(281)

sfunc(190)=k1*s(135)*s(74)+k5*s(171)+k3*s(187)-k1*s(190)*s(4)-k1*s(190)*s(92)-k2*s(190)-k4*s(190)

sfunc(191)=k1*s(135)*s(76)+k3*s(189)-k1*s(191)*s(92)-k2*s(191)-k4*s(191)-k5*s(191)-k1*s(410)*s(191)

sfunc(192)=k1*s(135)*s(77)-k1*s(192)*s(4)-k1*s(192)*s(92)-k2*s(192)-k4*s(192)

sfunc(193)=k1*s(135)*s(79)+k1*s(186)*s(25)-k1*s(193)*s(92)-k2*s(193)-k4*s(193)-k5*s(193)

sfunc(194)=k1*s(135)*s(80)+k2*s(178)+k5*s(182)-k1*s(194)*s(4)-k1*s(194)*s(92)-k4*s(194)

sfunc(195)=k1*s(135)*s(81)-k1*s(195)*s(4)-k1*s(195)*s(92)-k4*s(195)-k5*s(195)

sfunc(196)=k1*s(135)*s(83)+k2*s(183)+k5*s(188)-k1*s(196)*s(92)-k4*s(196)-k5*s(196)

sfunc(197)=k1*s(135)*s(84)+k4*s(183)+k4*s(186)+k4*s(189)+k4*s(191)+k4*s(193)+k4*s(196)-k1*s(197)*s(92)-k5*s(197)

sfunc(198)=k1*s(135)*s(85)+k5*s(195)-k1*s(198)*s(92)-k1*s(198)*s(4)-k2*s(198)-k4*s(198)

sfunc(199)=k1*s(135)*s(87)+k5*s(197)-k1*s(199)*s(92)-k5*s(199)

sfunc(200)=k1*s(135)*s(88)+k2*s(198)-k1*s(200)*s(4)-k3*s(200)-k4*s(200)+k2*s(240)+k2*s(342)+k2*s(202)

sfunc(201)=k1*s(135)*s(89)-k3*s(201)-k5*s(201)+k2*s(203)+k2*s(241)

sfunc(202)=k1*s(135)*s(90)+k1*s(198)*s(92)+k3*s(200)-k1*s(202)*s(4)-k2*s(202)-k4*s(202)

sfunc(203)=k1*s(135)*s(91)+k1*s(199)*s(92)+k3*s(201)-k2*s(203)-k5*s(203)

sfunc(204)=k1*s(135)*s(96)+k1*s(140)*s(92)-k1*s(204)*s(2)-k1*s(204)*s(4)-k1*s(204)*s(27)-k1*s(204)*s(35)-k4*s(204)

sfunc(205)=k1*s(135)*s(97)+k1*s(142)*s(92)+k1*s(204)*s(2)-k1*s(205)*s(4)-k1*s(205)*s(25)-k1*s(205)*s(35)-k2*s(205)-k4*s(205)

sfunc(206)=k1*s(135)*s(98)+k1*s(145)*s(92)-k1*s(206)*s(2)-k1*s(206)*s(27)-k1*s(206)*s(35)-k5*s(206)

sfunc(207)=k1*s(135)*s(99)+k1*s(146)*s(92)+k1*s(206)*s(2)-k1*s(207)*s(25)-k1*s(207)*s(35)-k2*s(207)-k5*s(207)

sfunc(208)=k1*s(135)*s(100)+k1*s(147)*s(92)+k2*s(205)-k1*s(208)*s(4)-k1*s(208)*s(35)-k3*s(210)-k4*s(210)+k2*s(210)+k2*s(212)

sfunc(209)=k1*s(135)*s(101)+k1*s(150)*s(92)+k2*s(207)-k1*s(209)*s(35)-k3*s(209)-k5*s(209)+k2*s(211)+k2*s(213)

sfunc(210)=k1*s(135)*s(102)+k1*s(151)*s(92)+k1*s(204)*s(27)+k3*s(210)-k1*s(210)*s(4)-k1*s(210)*s(35)-k2*s(210)-k4*s(210)

sfunc(211)=k1*s(135)*s(103)+k1*s(153)*s(92)+k3*s(209)-k1*s(211)*s(35)-k2*s(211)-k5*s(211)

sfunc(212)=k1*s(135)*s(104)+k1*s(155)*s(92)+k1*s(205)*s(25)-k1*s(212)*s(4)-k1*s(212)*s(35)-k2*s(212)-k4*s(212)

sfunc(213)=k1*s(135)*s(105)+k1*s(157)*s(92)+k1*s(206)*s(27)+k1*s(207)*s(25)-k1*s(213)*s(35)-k2*s(213)-k5*s(213)

sfunc(214)=k1*s(135)*s(106)+k1*s(160)*s(92)+k1*s(160)*s(92)+k1*s(204)*s(35)-k1*s(214)*s(4)-k2*s(214)-k4*s(214)-k5*s(214)

sfunc(215)=k1*s(135)*s(107)+k1*s(162)*s(92)+k1*s(205)*s(35)-k1*s(215)*s(4)-k1*s(215)*s(25)-k2*s(215)-k4*s(215)-k5*s(215)

sfunc(216)=k1*s(135)*s(108)+k1*s(165)*s(92)+k1*s(206)*s(35)-k2*s(216)-k5*s(216)

sfunc(217)=k1*s(135)*s(109)+k1*s(166)*s(92)+k1*s(207)*s(35)-k1*s(217)*s(25)-k2*s(217)-k5*s(217)

sfunc(218)=k1*s(135)*s(110)+k1*s(167)*s(92)+k1*s(208)*s(35)+k2*s(215)-k1*s(218)*s(4)-k3*s(218)-k4*s(218)-k5*s(218)+k2*s(220)+k2*s(222)

sfunc(219)=k1*s(135)*s(111)+k1*s(170)*s(92)+k1*s(209)*s(35)+k2*s(217)-k3*s(219)-k5*s(219)+k2*s(221)+k2*s(223)

sfunc(220)=k1*s(135)*s(112)+k1*s(171)*s(92)+k1*s(210)*s(35)+k3*s(218)-k1*s(220)*s(4)-k2*s(220)-k4*s(220)-k5*s(220)

sfunc(221)=k1*s(135)*s(113)+k1*s(173)*s(92)+k1*s(211)*s(35)+k3*s(219)-k2*s(221)-k5*s(221)

sfunc(222)=k1*s(135)*s(114)+k1*s(175)*s(92)+k1*s(212)*s(35)+k1*s(215)*s(25)-k1*s(222)*s(4)-k2*s(222)-k4*s(222)-k5*s(222)

sfunc(223)=k1*s(135)*s(115)+k1*s(177)*s(92)+k1*s(213)*s(35)+k1*s(217)*s(25)-k2*s(223)-k5*s(223)

sfunc(224)=k1*s(135)*s(116)+k1*s(178)*s(92)+k5*s(214)-k1*s(224)*s(4)-k2*s(224)-k4*s(224)+k1*s(274)*s(92)

sfunc(225)=k1*s(135)*s(117)+k1*s(181)*s(92)+k5*s(215)-k1*s(225)*s(4)-k1*s(225)*s(25)-k2*s(225)-k4*s(225)

sfunc(226)=k1*s(135)*s(118)+k1*s(182)*s(92)+k2*s(214)-k1*s(226)*s(4)-k4*s(226)-k5*s(226)

sfunc(227)=k1*s(135)*s(119)+k1*s(183)*s(92)+k5*s(216)-k2*s(227)-k4*s(227)-k5*s(227)+k1*s(284)*s(92)

sfunc(228)=k1*s(135)*s(120)+k1*s(186)*s(92)+k5*s(217)-k1*s(228)*s(25)-k2*s(228)-k4*s(228)-k5*s(228)

sfunc(229)=k1*s(135)*s(121)+k1*s(187)*s(92)+k5*s(218)+k2*s(225)-k1*s(229)*s(4)-k3*s(229)-k4*s(229)+k2*s(232)+k2*s(234)

sfunc(230)=k1*s(135)*s(122)+k1*s(188)*s(92)+k2*s(216)-k5*s(230)

sfunc(231)=k1*s(135)*s(123)+k1*s(189)*s(92)+k5*s(219)+k2*s(228)-k3*s(231)-k4*s(231)-k5*s(231)+k2*s(233)+k2*s(235)

sfunc(232)=k1*s(135)*s(124)+k1*s(190)*s(92)+k5*s(220)+k3*s(229)-k1*s(232)*s(4)-k2*s(232)-k4*s(232)+k1*s(406)*s(92)

sfunc(233)=k1*s(135)*s(125)+k1*s(191)*s(92)+k5*s(221)+k3*s(231)-k2*s(233)-k4*s(233)-k5*s(233)

sfunc(234)=k1*s(135)*s(126)+k1*s(192)*s(92)+k5*s(222)+k1*s(225)*s(25)-k1*s(234)*s(4)-k2*s(234)-k4*s(234)

sfunc(235)=k1*s(135)*s(127)+k1*s(193)*s(92)+k5*s(223)+k1*s(228)*s(25)-k2*s(235)-k4*s(235)-k5*s(235)

sfunc(236)=k1*s(135)*s(128)+k1*s(194)*s(92)+k2*s(224)+k5*s(226)-k1*s(236)*s(4)-k4*s(236)

sfunc(237)=k1*s(135)*s(129)+k1*s(195)*s(92)-k1*s(237)*s(4)-k4*s(237)-k5*s(237)

sfunc(238)=k1*s(135)*s(130)+k1*s(196)*s(92)+k2*s(227)+k5*s(230)-k4*s(238)-k5*s(238)

sfunc(239)=k1*s(135)*s(131)+k1*s(197)*s(92)+k4*s(227)+k4*s(228)+k4*s(231)+k4*s(233)+k4*s(235)+k4*s(238)-k5*s(239)

sfunc(240)=k1*s(135)*s(132)-k1*s(240)*s(4)-k2*s(240)-k4*s(240)

sfunc(241)=k1*s(135)*s(133)+k5*s(239)-k2*s(241)-k5*s(241)

sfunc(242)=k1*s(138)*s(4)+k5*s(141)-k1*s(242)*s(2)-k1*s(242)*s(27)-k1*s(242)*s(35)-k4*s(242)

sfunc(243)=k1*s(138)*s(35)-k1*s(243)*s(4)-k2*s(243)-k4*s(243)-k5*s(243)

sfunc(244)=k4*s(138)+k4*s(139)+k4*s(140)+k4*s(142)+k4*s(144)+k4*s(147)+k4*s(149)+k4*s(151)+k4*s(154)+k4*s(155)+k4*s(158)+k4*s(159)+k4*s(160)+k4*s(162)+k4*s(165)+k4*s(167)+k4*s(169)+k4*s(171)+k4*s(174)+k4*s(175)+k4*s(178)+k4*s(179)+k4*s(181)+k4*s(182)+k4*s(187)+k4*s(190)+k4*s(192)+k4*s(194)+k4*s(195)+k4*s(200)+k4*s(202)+k4*s(204)+k4*s(205)+k4*s(210)+k4*s(210)+k4*s(212)+k4*s(214)+k4*s(215)+k4*s(218)+k4*s(220)+k4*s(222)+k4*s(224)+k4*s(225)+k4*s(226)+k4*s(229)+k4*s(232)+k4*s(234)+k4*s(236)+k4*s(237)+k4*s(240)+k4*s(243)+k4*s(247)+k4*s(256)+k4*s(261)+k4*s(268)+k4*s(274)+k4*s(300)+k4*s(342)+k4*s(357)+k4*s(360)+k4*s(368)+k4*s(371)+k4*s(384)+k4*s(398)+k4*s(399)+k4*s(405)+k4*s(406)-k1*s(244)*s(4)+k4*s(354)

sfunc(245)=k4*s(138)+k4*s(242)-k1*s(245)*s(2)-k1*s(245)*s(27)-k1*s(245)*s(35)+k4*s(255)

sfunc(246)=k1*s(139)*s(4)+k5*s(143)+k1*s(242)*s(2)-k1*s(246)*s(35)-k2*s(246)-k4*s(246)

sfunc(247)=k1*s(139)*s(35)-k1*s(247)*s(4)-k1*s(247)*s(25)-k2*s(247)-k4*s(247)-k5*s(247)

sfunc(248)=k4*s(139)+k1*s(245)*s(2)+k4*s(246)-k1*s(248)*s(35)-k1*s(248)*s(25)-k2*s(

248)

sfunc(249)=k1*s(140)*s(4)+k5*s(145)-k1*s(249)*s(2)-k1*s(249)*s(27)-k1*s(249)*s(35)-k1*s(249)*s(92)-k4*s(249)

sfunc(250)=k4*s(140)+k4*s(249)-k1*s(250)*s(2)-k1*s(250)*s(27)-k1*s(250)*s(35)-k1*s(250)*s(92)

sfunc(251)=k1*s(141)*s(35)-k5*s(251)

sfunc(252)=k1*s(142)*s(4)+k5*s(146)+k1*s(249)*s(2)-k1*s(252)*s(35)-k1*s(252)*s(25)-k1*s(252)*s(92)-k4*s(252)

sfunc(253)=k4*s(142)+k1*s(250)*s(2)+k4*s(252)-k1*s(253)*s(25)-k1*s(253)*s(35)-k1*s(253)*s(92)-k2*s(253)

sfunc(254)=k1*s(143)*s(35)-k1*s(254)*s(25)-k2*s(254)-k5*s(254)

sfunc(255)=k1*s(144)*s(4)+k5*s(148)+k2*s(246)-k1*s(255)*s(35)-k3*s(255)-k4*s(255)+k2*s(260)+k2*s(267)

sfunc(256)=k1*s(144)*s(35)+k2*s(247)-k1*s(256)*s(4)-k3*s(256)-k4*s(256)-k5*s(256)+k2*s(261)+k2*s(268)

sfunc(257)=k4*s(144)+k2*s(248)+k4*s(255)-k1*s(257)*s(35)-k3*s(257)+k2*s(262)+k2*s(269)

sfunc(258)=k4*s(147)+k2*s(253)-k1*s(258)*s(35)-k3*s(265)+k4*s(263)+k2*s(265)+k2*s(271)

sfunc(259)=k1*s(148)*s(35)+k2*s(254)-k3*s(259)-k5*s(259)+k2*s(266)+k2*s(272)

sfunc(260)=k1*s(149)*s(4)+k5*s(152)+k3*s(255)-k1*s(260)*s(35)-k2*s(260)-k4*s(260)

sfunc(261)=k1*s(149)*s(35)+k3*s(256)-k1*s(261)*s(4)-k2*s(261)-k4*s(261)-k5*s(261)

sfunc(262)=k4*s(149)+k3*s(257)+k4*s(260)-k1*s(262)*s(35)-k2*s(262)

sfunc(263)=k5*s(150)-k1*s(263)*s(35)-k1*s(263)*s(92)-k3*s(263)-k4*s(263)+k2*s(264)+k2*s(270)

sfunc(264)=k1*s(151)*s(4)+k5*s(153)+k3*s(263)-k1*s(264)*s(35)-k1*s(264)*s(92)-k2*s(264)-k4*s(264)

sfunc(265)=k4*s(151)+k3*s(265)+k4*s(264)-k1*s(265)*s(35)-k1*s(265)*s(92)-k2*s(265)

sfunc(266)=k1*s(152)*s(35)+k3*s(259)-k2*s(266)-k5*s(266)

sfunc(267)=k1*s(154)*s(4)+k5*s(156)+k1*s(242)*s(27)-k1*s(267)*s(35)-k2*s(267)-k4*s(267)

sfunc(268)=k1*s(154)*s(4)+k1*s(154)*s(35)+k1*s(247)*s(25)-k1*s(268)*s(4)-k2*s(268)-k4*s(268)-k5*s(268)

sfunc(269)=k4*s(154)+k1*s(245)*s(27)+k1*s(248)*s(25)+k4*s(267)-k1*s(269)*s(35)-k2*s(269)

sfunc(270)=k1*s(155)*s(4)+k5*s(157)+k1*s(249)*s(27)+k1*s(252)*s(25)-k1*s(270)*s(35)-k1*s(270)*s(92)-k2*s(270)-k4*s(270)

sfunc(271)=k4*s(155)+k1*s(250)*s(27)+k1*s(253)*s(25)+k4*s(270)-k1*s(271)*s(35)-k1*s(271)*s(92)-k2*s(271)

sfunc(272)=k1*s(156)*s(35)+k1*s(254)*s(25)-k2*s(272)-k5*s(272)

sfunc(273)=k1*s(158)*s(4)+k5*s(161)-k2*s(273)-k4*s(273)+k5*s(344)

sfunc(274)=k5*s(160)-k1*s(274)*s(4)-k1*s(274)*s(92)-k4*s(274)

sfunc(275)=k1*s(159)*s(4)+k5*s(163)+k4*s(165)-k2*s(275)-k4*s(275)

sfunc(276)=k4*s(159)-k2*s(276)+k4*s(285)

sfunc(277)=k4*s(158)+k4*s(165)+k4*s(169)+k4*s(174)+k4*s(179)+k4*s(180)+k4*s(273)+k4*s(275)-k6*s(277)+k4*s(283)+k4*s(288)+k4*s(293)+k4*s(298)+k4*s(299)+k4*s(354)+k4*s(357)+k4*s(360)+k4*s(385)+k4*s(387)+k4*s(388)+k4*s(390)+k4*s(391)+k4*s(392)+k4*s(393)+k4*s(394)+k4*s(395)+k4*s(401)+k4*s(403)

sfunc(278)=-k1*s(160)*s(4)+k1*s(249)*s(35)-k1*s(278)*s(92)-k2*s(278)-k4*s(278)-k5*s(278)

sfunc(279)=k4*s(160)+k1*s(250)*s(35)+k4*s(278)-k1*s(279)*s(92)-k2*s(279)-k5*s(279)

sfunc(280)=0 //missing number

sfunc(281)=k1*s(162)*s(4)+k1*s(252)*s(35)-k1*s(281)*s(25)-k1*s(281)*s(92)-k2*s(281)-k4*s(281)-k5*s(281)

sfunc(282)=k4*s(162)+k1*s(253)*s(35)+k4*s(281)-k1*s(282)*s(25)-k1*s(282)*s(92)-k2*s(282)-k5*s(282)

sfunc(283)=k1*s(164)*s(4)+k5*s(168)+k2*s(275)-k3*s(283)-k4*s(283)+k2*s(288)+k2*s(293)

sfunc(284)=k5*s(165)+k1*s(178)*s(4)+k5*s(183)+k1*s(274)*s(4)+k5*s(278)-k1*s(284)*s(92)-k2*s(284)-k4*s(284)

sfunc(285)=k5*s(166)+k1*s(181)*s(4)+k5*s(186)+k5*s(281)-k1*s(285)*s(25)-k1*s(285)*s(92)-k2*s(285)-k4*s(285)

sfunc(286)=k1*s(167)*s(4)-k1*s(286)*s(92)-k3*s(286)-k4*s(286)-k5*s(286)+k2*s(290)+k2*s(294)

sfunc(287)=k4*s(167)+k1*s(258)*s(35)+k2*s(282)+k4*s(286)-k1*s(287)*s(92)-k3*s(287)-k5*s(287)+k4*s(289)+k2*s(291)+k2*s(295)

sfunc(288)=k1*s(169)*s(4)+k5*s(172)+k3*s(283)-k2*s(288)-k4*s(288)

sfunc(289)=k5*s(170)+k1*s(187)*s(4)+k5*s(189)+k1*s(263)*s(35)-k1*s(289)*s(92)-k3*s(289)-k4*s(289)-k5*s(289)

sfunc(290)=k1*s(171)*s(4)+k1*s(264)*s(35)+k3*s(286)+k3*s(289)-k1*s(290)*s(92)-k2*s(290)-k4*s(290)-k5*s(290)

sfunc(291)=k4*s(171)+k1*s(265)*s(35)+k3*s(287)+k4*s(290)-k1*s(291)*s(92)-k2*s(291)-k5*s(291)

sfunc(292)=k5*s(173)+k1*s(190)*s(4)+k5*s(191)+k5*s(290)-k1*s(292)*s(92)-k2*s(292)-k4*s(292)+k3*s(365)+k1*s(406)*s(4)

sfunc(293)=k1*s(174)*s(4)+k5*s(176)-k2*s(293)-k4*s(293)

sfunc(294)=k1*s(175)*s(4)+k1*s(270)*s(35)+k1*s(281)*s(25)-k1*s(294)*s(92)-k2*s(294)-k4*s(294)-k5*s(294)

sfunc(295)=k4*s(175)+k1*s(271)*s(35)+k1*s(282)*s(25)+k4*s(294)-k1*s(295)*s(92)-k2*s(295)-k5*s(295)

sfunc(296)=k5*s(177)+k1*s(192)*s(4)+k5*s(193)+k1*s(285)*s(25)+k5*s(294)-k1*s(296)*s(92)-k2*s(296)-k4*s(296)

sfunc(297)=k4*s(178)+k4*s(181)+k4*s(187)+k4*s(190)+k4*s(192)+k4*s(194)+k4*s(195)+k4*s(274)+k5*s(279)+k4*s(284)+k4*s(285)+k4*s(292)-k1*s(297)*s(92)-k3*s(297)+k4*s(304)+k4*s(305)+k4*s(364)+k4*s(365)+k4*s(366)+k4*s(366)+k4*s(368)+k4*s(372)+k4*s(397)+k4*s(399)+k4*s(406)

sfunc(298)=k1*s(179)*s(4)+k5*s(184)+k2*s(273)-k4*s(298)

sfunc(299)=k1*s(180)*s(4)+k5*s(185)-k4*s(299)-k5*s(299)

sfunc(300)=k5*s(180)-k1*s(300)*s(4)-k2*s(300)-k4*s(300)

sfunc(301)=k1*s(182)*s(4)+k5*s(188)+k2*s(278)-k1*s(301)*s(92)-k4*s(301)-k5*s(301)

sfunc(302)=k4*s(182)+k2*s(279)+k4*s(301)-k1*s(302)*s(92)-k5*s(302)

sfunc(303)=k5*s(185)-k2*s(303)-k5*s(303)

sfunc(304)=k1*s(194)*s(4)+k5*s(196)+k2*s(284)+k5*s(301)-k1*s(304)*s(92)-k4*s(304)

sfunc(305)=k1*s(195)*s(4)+k5*s(197)-k1*s(305)*s(92)-k4*s(305)

sfunc(306)=k1*s(198)*s(4)+k5*s(199)-k1*s(306)*s(92)-k2*s(306)-k4*s(306)

sfunc(307)=k4*s(198)+k3*s(297)+k4*s(306)-k1*s(307)*s(92)-k2*s(307)

sfunc(308)=k1*s(200)*s(4)+k2*s(306)-k3*s(308)-k4*s(308)+k2*s(310)+k2*s(343)

sfunc(309)=k4*s(200)+k2*s(307)+k4*s(308)-k3*s(309)+k2*s(311)+k2*s(374)

sfunc(310)=k5*s(201)+k1*s(202)*s(4)+k5*s(203)+k3*s(308)-k2*s(310)-k4*s(310)

sfunc(311)=k4*s(202)+k3*s(309)+k4*s(310)-k2*s(311)

sfunc(312)=k1*s(204)*s(4)+k5*s(206)+k1*s(249)*s(92)-k1*s(312)*s(2)-k1*s(312)*s(35)-k4*s(312)

sfunc(313)=k4*s(204)+k1*s(250)*s(92)+k4*s(312)-k1*s(313)*s(2)-k1*s(313)*s(35)

sfunc(314)=k1*s(205)*s(4)+k5*s(207)+k1*s(252)*s(92)+k1*s(312)*s(2)-k1*s(314)*s(35)-k1*s(314)*s(25)-k4*s(314)

sfunc(315)=k4*s(205)+k1*s(253)*s(92)+k1*s(313)*s(2)+k4*s(314)-k1*s(315)*s(25)-k1*s(315)*s(35)-k2*s(315)

sfunc(316)=k1*s(208)*s(4)+k5*s(209)+k1*s(263)*s(92)-k1*s(316)*s(35)-k3*s(316)-k4*s(316)+k2*s(318)+k2*s(320)

sfunc(317)=k4*s(210)+k2*s(315)+k4*s(316)-k1*s(317)*s(35)-k3*s(317)+k2*s(319)+k2*s(321)

sfunc(318)=k1*s(210)*s(4)+k5*s(211)+k1*s(264)*s(92)+k3*s(316)-k1*s(318)*s(35)-k2*s(318)-k4*s(318)

sfunc(319)=k4*s(210)+k1*s(265)*s(92)+k3*s(317)+k4*s(318)-k1*s(319)*s(35)-k2*s(319)

sfunc(320)=k1*s(212)*s(4)+k5*s(213)+k1*s(270)*s(92)+k1*s(314)*s(25)-k1*s(320)*s(35)-k2*s(320)-k4*s(320)

sfunc(321)=k4*s(212)+k1*s(271)*s(92)+k1*s(315)*s(25)+k4*s(320)-k1*s(321)*s(35)-k2*s(321)

sfunc(322)=k1*s(214)*s(4)+k5*s(216)+k1*s(278)*s(92)+k1*s(312)*s(35)-k2*s(322)-k4*s(322)-k5*s(322)

sfunc(323)=k4*s(214)+k1*s(279)*s(92)+k1*s(313)*s(35)+k4*s(322)-k2*s(323)-k5*s(323)

sfunc(324)=k1*s(215)*s(4)+k5*s(217)+k1*s(281)*s(92)+k1*s(314)*s(35)-k1*s(324)*s(25)-k2*s(324)-k4*s(324)-k5*s(324)

sfunc(325)=k4*s(215)+k1*s(282)*s(92)+k1*s(315)*s(35)+k4*s(324)-k1*s(325)*s(25)-k2*s(325)-k5*s(325)

sfunc(326)=k1*s(218)*s(4)+k5*s(219)+k1*s(286)*s(92)+k1*s(289)*s(92)+k1*s(316)*s(35)+k2*s(324)-k3*s(326)-k4*s(326)-k5*s(326)+k2*s(328)+k2*s(330)

sfunc(327)=k4*s(218)+k1*s(287)*s(92)+k1*s(317)*s(35)+k2*s(325)+k4*s(326)-k3*s(327)-k5*s(327)+k2*s(329)+k2*s(331)

sfunc(328)=k1*s(220)*s(4)+k5*s(221)+k1*s(290)*s(92)+k1*s(296)*s(92)+k1*s(318)*s(35)+k3*s(326)-k2*s(328)-k4*s(328)-k5*s(328)

sfunc(329)=k4*s(220)+k1*s(291)*s(92)+k1*s(319)*s(35)+k3*s(327)+k4*s(328)-k2*s(329)-k5*s(329)

sfunc(330)=k1*s(222)*s(4)+k5*s(223)+k1*s(294)*s(92)+k1*s(320)*s(35)+k1*s(324)*s(25)

-k2*s(330)-k4*s(330)-k5*s(330)

sfunc(331)=k4*s(222)+k1*s(295)*s(92)+k1*s(321)*s(35)+k1*s(325)*s(25)+k4*s(330)-k2*s(331)-k5*s(331)

sfunc(332)=k1*s(224)*s(4)+k5*s(227)+k5*s(322)-k2*s(332)-k4*s(332)

sfunc(333)=k4*s(224)+k4*s(225)+k4*s(229)+k4*s(232)+k4*s(234)+k4*s(236)+k4*s(237)+k1*s(297)*s(92)+k4*s(332)-k6*s(333)+k4*s(334)+k4*s(337)+k4*s(338)+k4*s(339)+k4*s(340)+k4*s(341)+k4*s(375)+k4*s(376)+k4*s(377)+k4*s(378)+k4*s(379)+k4*s(380)+k4*s(398)+k4*s(405)

sfunc(334)=k1*s(225)*s(4)+k5*s(228)+k1*s(285)*s(92)+k5*s(324)-k1*s(334)*s(25)-k2*s(334)-k4*s(334)

sfunc(335)=k1*s(226)*s(4)+k5*s(230)+k1*s(301)*s(92)-k4*s(335)-k5*s(335)

sfunc(336)=k4*s(226)+k1*s(302)*s(92)+k2*s(323)+k4*s(335)-k5*s(336)

sfunc(337)=k1*s(229)*s(4)+k5*s(231)+k5*s(326)+k2*s(334)-k3*s(337)-k4*s(337)+k2*s(338)+k2*s(339)+k1*s(365)*s(92)+k1*s(405)*s(4)

sfunc(338)=k1*s(232)*s(4)+k5*s(233)+k1*s(292)*s(92)+k5*s(328)+k3*s(337)-k2*s(338)-k4*s(338)

sfunc(339)=k1*s(234)*s(4)+k5*s(235)+k5*s(330)+k1*s(334)*s(25)-k2*s(339)-k4*s(339)+k1*s(398)*s(4)

sfunc(340)=k1*s(236)*s(4)+k5*s(238)+k1*s(304)*s(92)+k2*s(332)+k5*s(335)-k4*s(340)

sfunc(341)=k1*s(237)*s(4)+k5*s(239)+k1*s(305)*s(92)-k4*s(341)-k5*s(341)

sfunc(342)=k5*s(237)-k1*s(342)*s(4)-k2*s(342)-k4*s(342)

sfunc(343)=k1*s(240)*s(4)+k5*s(241)+k1*s(306)*s(92)+k5*s(341)+k1*s(342)*s(4)-k2*s(343)-k4*s(343)

sfunc(344)=k1*s(242)*s(35)+k1*s(243)*s(4)+k5*s(251)-k2*s(344)-k4*s(344)-k5*s(344)

sfunc(345)=k4*s(242)+k4*s(246)+k4*s(249)+k4*s(252)+k4*s(260)+k4*s(263)+k4*s(264)
+k4*s(267)+k4*s(270)+k4*s(273)+k4*s(275)+k4*s(278)+k4*s(281)+k4*s(283)+k4*s(284)
+k4*s(285)+k4*s(286)+k4*s(288)+k4*s(289)+k4*s(290)+k4*s(292)+k4*s(293)+k4*s(294)
+k4*s(296)+k4*s(298)+k4*s(299)+k4*s(301)+k4*s(304)+k4*s(305)+k4*s(306)+k4*s(308)
+k4*s(310)+k4*s(312)+k4*s(314)+k4*s(316)+k4*s(318)+k4*s(320)+k4*s(322)+k4*s(324)
+k4*s(326)+k4*s(328)+k4*s(330)+k4*s(332)+k4*s(334)+k4*s(335)+k4*s(337)+k4*s(338)
+k4*s(339)+k4*s(340)+k4*s(341)+k4*s(343)+k4*s(344)-k5*s(345)+k4*s(347)+k4*s(350)
+k4*s(352)+k4*s(355)+k4*s(358)+k4*s(365)+k4*s(370)+k4*s(381)+k4*s(387)+k4*s(389)
+k4*s(391)+k4*s(392)+k4*s(394)+k4*s(400)+k4*s(401)+k1*s(244)*s(4)

sfunc(346)=0 //missing number

sfunc(347)=k2*s(243)-k1*s(347)*s(4)-k4*s(347)-k5*s(347)

sfunc(348)=k4*s(243)+k1*s(245)*s(35)+k4*s(344)-k2*s(348)-k5*s(348)

sfunc(349)=0 //missing number

sfunc(350)=k1*s(246)*s(35)+k1*s(247)*s(4)+k5*s(254)-k1*s(350)*s(25)-k2*s(350)-k4*s(
350)-k5*s(350)

sfunc(351)=k4*s(247)+k1*s(248)*s(35)+k4*s(350)-k1*s(351)*s(25)-k2*s(351)-k5*s(351)

sfunc(352)=k1*s(255)*s(35)+k1*s(256)*s(4)+k5*s(259)+k2*s(350)-k3*s(352)-k4*s(352)-k
5*s(352)+k2*s(358)

sfunc(353)=k4*s(256)+k1*s(257)*s(35)+k2*s(351)-k3*s(353)-k5*s(353)+k2*s(356)+k2*s(
359)

sfunc(354)=k5*s(256)-k1*s(354)*s(4)-k3*s(354)-k4*s(354)+k2*s(357)+k2*s(360)

sfunc(355)=k1*s(260)*s(35)+k1*s(261)*s(4)+k5*s(266)+k2*s(322)+k3*s(352)-k2*s(355)-
k4*s(355)-k5*s(355)

sfunc(356)=k4*s(261)+k1*s(262)*s(35)+k4*s(352)+k3*s(353)+k4*s(355)-k2*s(356)-k5*s(356)

sfunc(357)=k5*s(261)+k3*s(354)-k1*s(357)*s(4)-k2*s(357)-k4*s(357)

sfunc(358)=k1*s(267)*s(35)+k1*s(268)*s(4)+k5*s(272)+k1*s(350)*s(25)-k2*s(358)-k4*s(358)-k5*s(358)

sfunc(359)=k4*s(268)+k1*s(269)*s(35)+k1*s(351)*s(25)+k4*s(358)-k2*s(359)-k5*s(359)

sfunc(360)=k5*s(268)-k1*s(360)*s(4)-k2*s(360)-k4*s(360)

sfunc(361)=0 //missing number

sfunc(362)=k6*s(277)+k4*s(300)-k2*s(362)+k4*s(370)

sfunc(363)=0 //missing number

sfunc(364)=k5*s(282)+k4*s(296)-k1*s(364)*s(25)-k1*s(364)*s(92)-k2*s(364)-k4*s(364)

sfunc(365)=k2*s(285)+k5*s(286)+k5*s(289)+k2*s(292)+k2*s(296)-k1*s(365)*s(92)-k3*s(365)-k4*s(365)+k1*s(399)*s(4)

sfunc(366)=k5*s(287)+k2*s(364)-k1*s(366)*s(92)-k3*s(366)-k4*s(366)+k3*s(366)+k2*s(397)

sfunc(367)=k5*s(291)+k3*s(366)-k1*s(367)*s(92)-k2*s(367)-k4*s(367)

sfunc(368)=k5*s(295)-k1*s(368)*s(92)-k2*s(368)-k4*s(368)

sfunc(369)=0 //missing number →(364)

sfunc(370)=k5*s(299)+k1*s(300)*s(4)+k5*s(303)-k2*s(370)-k4*s(370)

sfunc(371)=k2*s(300)-k1*s(371)*s(4)-k4*s(371)

sfunc(372)=k5*s(302)-k1*s(372)*s(92)-k4*s(372)

sfunc(373)=k2*s(303)-k5*s(373)

sfunc(374)=k4*s(240)+k1*s(307)*s(92)+k6*s(333)+k4*s(342)+k4*s(343)-k2*s(374)

sfunc(375)=k5*s(323)-k2*s(375)-k4*s(375)

sfunc(376)=k5*s(325)+k1*s(364)*s(92)-k2*s(376)-k4*s(376)

sfunc(377)=k5*s(327)+k1*s(366)*s(92)+k2*s(376)-k3*s(377)-k4*s(377)+k2*s(378)+k2*s(379)

sfunc(378)=k5*s(329)+k1*s(366)*s(92)+k3*s(377)-k2*s(378)-k4*s(378)

sfunc(379)=k5*s(331)-k2*s(379)-k4*s(379)+k1*s(397)*s(92)

sfunc(380)=k5*s(336)+k1*s(372)*s(92)+k2*s(375)-k4*s(380)

sfunc(381)=k2*s(344)+k1*s(347)*s(4)-k4*s(381)-k5*s(381)

sfunc(382)=k5*s(345)-k2*s(382)

sfunc(383)=k4*s(347)+k2*s(348)+k4*s(381)-k5*s(383)

sfunc(384)=k5*s(347)-k1*s(384)*s(4)-k4*s(384)

sfunc(385)=k5*s(348)-k2*s(385)-k4*s(385)

sfunc(386)=0 //missing number

sfunc(387)=k5*s(350)-k2*s(387)-k4*s(387)

sfunc(388)=k5*s(351)-k1*s(388)*s(25)-k2*s(388)-k4*s(388)

sfunc(389)=k5*s(352)+k2*s(355)-k3*s(389)-k4*s(389)-k5*s(389)

sfunc(390)=k5*s(353)+k2*s(388)+k4*s(389)-k3*s(390)-k4*s(390)+k2*s(393)+k2*s(395)

sfunc(391)=k1*s(354)*s(4)+k2*s(387)+k5*s(389)-k3*s(391)-k4*s(391)+k2*s(392)+k2*s(394)

sfunc(392)=k5*s(355)+k1*s(357)*s(4)+k3*s(389)+k3*s(391)-k2*s(392)-k4*s(392)

sfunc(393)=k5*s(356)+k3*s(390)-k2*s(393)-k4*s(393)

sfunc(394)=k5*s(358)+k1*s(360)*s(4)-k2*s(394)-k4*s(394)

sfunc(395)=k5*s(359)+k1*s(388)*s(25)-k2*s(395)-k4*s(395)

sfunc(396)=0 //missing number →s(236)

sfunc(397)=k1*s(364)*s(25)-k1*s(397)*s(92)-k2*s(397)-k4*s(397)

sfunc(398)=k1*s(368)*s(92)-k1*s(398)*s(4)-k2*s(398)-k4*s(398)

sfunc(399)=k2*s(368)-k1*s(399)*s(4)-k1*s(399)*s(92)-k3*s(399)-k4*s(399)+k2*s(406)

sfunc(400)=k2*s(370)+k1*s(371)*s(4)+k5*s(373)-k4*s(400)

sfunc(401)=k5*s(381)+k1*s(384)*s(4)-k4*s(401)

sfunc(402)=0 //missing number →s(382)

sfunc(403)=k5*s(383)+k4*s(384)+k2*s(385)-k4*s(403)

sfunc(404)=0 //missing number →s(340)

sfunc(405)=k2*s(398)+k1*s(399)*s(92)-k1*s(405)*s(4)-k4*s(405)

sfunc(406)=k3*s(399)-k1*s(406)*s(4)-k1*s(406)*s(92)-k4*s(406)-k2*s(406)

```
sfunc(407)=k2*s(382)-k3*s(407)+k2*s(408)

sfunc(408)=k3*s(407)-k2*s(408)

sfunc(409)=0       //missing number →s(407)

sfunc(410)=k2*s(408)-k7*s(410)*s(7)-k1*s(410)*s(10)

sfunc(411)=k1*s(410)*s(10)-k2*s(411)

sfunc(412)=k2*s(411)

sfunc(413)=k2*s(411)


endfunction

s=ode("rkf",s0,t0,t,sdot)
//plot2d(t,s(1       ,:),1)
//plot2d(t,s(8       ,:),2)
//plot2d(t,s(9       ,:),3)
//plot2d(t,s(10      ,:),4)
//plot2d(t,s(25      ,:),2)
plot2d(t,s(37      ,:),2)
//plot2d(t,s(92      ,:),3)
plot2d(t,s(137     ,:),3)
//plot2d(t,s(410     ,:),4)
plot2d(t,s(413     ,:),4)


temp=cat(1,t,s)

csvWrite(temp,"ABall.csv")
```