

Coefficients associated with the integrator RKT3(2)3 and the extrapolator XTR1:

$c[1] = 0$
 $c[2] = 1/2$
 $c[3] = 3/4$
 $c[4] = 1$
 $c[5] = 0$
 $c[6] = 1/3$
 $c[7] = 5/6$
 $c[8] = 1$
 $a[2,1] = 1/2$
 $a[3,1] = 0$
 $a[3,2] = 3/4$
 $a[4,1] = 2/9$
 $a[4,2] = 1/3$
 $a[4,3] = 4/9$
 $a[5,1] = 0$
 $a[5,2] = 0$
 $a[5,3] = 0$
 $a[5,4] = 0$
 $a[6,1] = -31/243$
 $a[6,2] = 7/81$
 $a[6,3] = 28/243$
 $a[6,4] = -2/27$
 $a[6,5] = 1/3$
 $a[7,1] = 11/972$
 $a[7,2] = -13/162$
 $a[7,3] = -26/243$
 $a[7,4] = 19/108$
 $a[7,5] = -1/24$
 $a[7,6] = 7/8$
 $a[8,1] = 0$
 $a[8,2] = 0$
 $a[8,3] = 0$
 $a[8,4] = 0$
 $a[8,5] = 1/10$
 $a[8,6] = 1/2$
 $a[8,7] = 2/5$
 $bcap[1] = 2/9$
 $bcap[2] = 1/3$
 $bcap[3] = 4/9$
 $bcap[4] = 0$
 $b[1] = 7/36$
 $b[2] = 19/36$
 $b[3] = 1/6$
 $b[4] = 1/9$
 $bstar[1,0] = 1$
 $bstar[1,1] = -4/3$
 $bstar[1,2] = 5/9$
 $bstar[2,0] = 0$
 $bstar[2,1] = 1$
 $bstar[2,2] = -2/3$
 $bstar[3,0] = 0$
 $bstar[3,1] = 4/3$
 $bstar[3,2] = -8/9$
 $bstar[4,0] = 0$
 $bstar[4,1] = -1$
 $bstar[4,2] = 1$
 $btilde[1] = 0$
 $btilde[2] = 0$
 $btilde[3] = 0$

$b_{\text{tilde}}[4] = 0$
 $b_{\text{tilde}}[5] = 1/10$
 $b_{\text{tilde}}[6] = 1/2$
 $b_{\text{tilde}}[7] = 2/5$
 $b_{\text{tilde}}[8] = 0$
 $b_{\text{tilde}}_{\text{star}}[1,0] = 0$
 $b_{\text{tilde}}_{\text{star}}[1,1] = 0$
 $b_{\text{tilde}}_{\text{star}}[1,2] = 0$
 $b_{\text{tilde}}_{\text{star}}[1,3] = 0$
 $b_{\text{tilde}}_{\text{star}}[2,0] = 0$
 $b_{\text{tilde}}_{\text{star}}[2,1] = 0$
 $b_{\text{tilde}}_{\text{star}}[2,2] = 0$
 $b_{\text{tilde}}_{\text{star}}[2,3] = 0$
 $b_{\text{tilde}}_{\text{star}}[3,0] = 0$
 $b_{\text{tilde}}_{\text{star}}[3,1] = 0$
 $b_{\text{tilde}}_{\text{star}}[3,2] = 0$
 $b_{\text{tilde}}_{\text{star}}[3,3] = 0$
 $b_{\text{tilde}}_{\text{star}}[4,0] = 0$
 $b_{\text{tilde}}_{\text{star}}[4,1] = 0$
 $b_{\text{tilde}}_{\text{star}}[4,2] = 0$
 $b_{\text{tilde}}_{\text{star}}[4,3] = 0$
 $b_{\text{tilde}}_{\text{star}}[5,0] = 1$
 $b_{\text{tilde}}_{\text{star}}[5,1] = -13/5$
 $b_{\text{tilde}}_{\text{star}}[5,2] = 13/5$
 $b_{\text{tilde}}_{\text{star}}[5,3] = -9/10$
 $b_{\text{tilde}}_{\text{star}}[6,0] = 0$
 $b_{\text{tilde}}_{\text{star}}[6,1] = 15/4$
 $b_{\text{tilde}}_{\text{star}}[6,2] = -11/2$
 $b_{\text{tilde}}_{\text{star}}[6,3] = 9/4$
 $b_{\text{tilde}}_{\text{star}}[7,0] = 0$
 $b_{\text{tilde}}_{\text{star}}[7,1] = -12/5$
 $b_{\text{tilde}}_{\text{star}}[7,2] = 32/5$
 $b_{\text{tilde}}_{\text{star}}[7,3] = -18/5$
 $b_{\text{tilde}}_{\text{star}}[8,0] = 0$
 $b_{\text{tilde}}_{\text{star}}[8,1] = 5/4$
 $b_{\text{tilde}}_{\text{star}}[8,2] = -7/2$
 $b_{\text{tilde}}_{\text{star}}[8,3] = 9/4$

Coefficients associated with the integrator RKT3(2)3 and the extrapolator XTR2:

$c[1] = 0$
 $c[2] = 1/2$
 $c[3] = 3/4$
 $c[4] = 1$
 $c[5] = 0$
 $c[6] = 1/3$
 $c[7] = 4/5$
 $c[8] = 1$
 $c[9] = 1$
 $a[2,1] = 1/2$
 $a[3,1] = 0$
 $a[3,2] = 3/4$
 $a[4,1] = 2/9$
 $a[4,2] = 1/3$
 $a[4,3] = 4/9$
 $a[5,1] = 0$
 $a[5,2] = 0$
 $a[5,3] = 0$
 $a[5,4] = 0$
 $a[6,1] = -31/243$
 $a[6,2] = 7/81$

$a[6, 3] = 28 / 243$
 $a[6, 4] = -2 / 27$
 $a[6, 5] = 1 / 3$
 $a[7, 1] = 119 / 225$
 $a[7, 2] = -148 / 375$
 $a[7, 3] = -592 / 1125$
 $a[7, 4] = 49 / 125$
 $a[7, 5] = -19 / 25$
 $a[7, 6] = 39 / 25$
 $a[8, 1] = -409 / 126$
 $a[8, 2] = 53 / 21$
 $a[8, 3] = 212 / 63$
 $a[8, 4] = -37 / 14$
 $a[8, 5] = 38 / 7$
 $a[8, 6] = -87 / 14$
 $a[8, 7] = 25 / 14$
 $a[9, 1] = 0$
 $a[9, 2] = 0$
 $a[9, 3] = 0$
 $a[9, 4] = 0$
 $a[9, 5] = 5 / 48$
 $a[9, 6] = 27 / 56$
 $a[9, 7] = 125 / 336$
 $a[9, 8] = 1 / 24$
 $bcap[1] = 2 / 9$
 $bcap[2] = 1 / 3$
 $bcap[3] = 4 / 9$
 $bcap[4] = 0$
 $b[1] = 7 / 36$
 $b[2] = 19 / 36$
 $b[3] = 1 / 6$
 $b[4] = 1 / 9$
 $bstar[1, 0] = 1$
 $bstar[1, 1] = -4 / 3$
 $bstar[1, 2] = 5 / 9$
 $bstar[2, 0] = 0$
 $bstar[2, 1] = 1$
 $bstar[2, 2] = -2 / 3$
 $bstar[3, 0] = 0$
 $bstar[3, 1] = 4 / 3$
 $bstar[3, 2] = -8 / 9$
 $bstar[4, 0] = 0$
 $bstar[4, 1] = -1$
 $bstar[4, 2] = 1$
 $btilde[1] = 0$
 $btilde[2] = 0$
 $btilde[3] = 0$
 $btilde[4] = 0$
 $btilde[5] = 5 / 48$
 $btilde[6] = 27 / 56$
 $btilde[7] = 125 / 336$
 $btilde[8] = 1 / 24$
 $btilde[9] = 0$
 $btildestar[1, 0] = 0$
 $btildestar[1, 1] = 0$
 $btildestar[1, 2] = 0$
 $btildestar[1, 3] = 0$
 $btildestar[2, 0] = 0$
 $btildestar[2, 1] = 0$
 $btildestar[2, 2] = 0$

$\text{btildestar}[2,3] = 0$
 $\text{btildestar}[3,0] = 0$
 $\text{btildestar}[3,1] = 0$
 $\text{btildestar}[3,2] = 0$
 $\text{btildestar}[3,3] = 0$
 $\text{btildestar}[4,0] = 0$
 $\text{btildestar}[4,1] = 0$
 $\text{btildestar}[4,2] = 0$
 $\text{btildestar}[4,3] = 0$
 $\text{btildestar}[5,0] = 1$
 $\text{btildestar}[5,1] = -21/8$
 $\text{btildestar}[5,2] = 8/3$
 $\text{btildestar}[5,3] = -15/16$
 $\text{btildestar}[6,0] = 0$
 $\text{btildestar}[6,1] = 27/7$
 $\text{btildestar}[6,2] = -81/14$
 $\text{btildestar}[6,3] = 135/56$
 $\text{btildestar}[7,0] = 0$
 $\text{btildestar}[7,1] = -125/56$
 $\text{btildestar}[7,2] = 125/21$
 $\text{btildestar}[7,3] = -375/112$
 $\text{btildestar}[8,0] = 0$
 $\text{btildestar}[8,1] = -1/2$
 $\text{btildestar}[8,2] = 7/6$
 $\text{btildestar}[8,3] = -5/8$
 $\text{btildestar}[9,0] = 0$
 $\text{btildestar}[9,1] = 3/2$
 $\text{btildestar}[9,2] = -4/1$
 $\text{btildestar}[9,3] = 5/2$

Coefficients associated with the integrator RKT3(2)3 and the extrapolator XTR3:

$c[1] = 0$
 $c[2] = 1/2$
 $c[3] = 3/4$
 $c[4] = 1$
 $c[5] = 0$
 $c[6] = 1/4$
 $c[7] = 13/20$
 $c[8] = 9/10$
 $c[9] = 1$
 $c[10] = 1$
 $a[2,1] = 1/2$
 $a[3,1] = 0$
 $a[3,2] = 3/4$
 $a[4,1] = 2/9$
 $a[4,2] = 1/3$
 $a[4,3] = 4/9$
 $a[5,1] = 0$
 $a[5,2] = 0$
 $a[5,3] = 0$
 $a[5,4] = 0$
 $a[6,1] = -43/576$
 $a[6,2] = 5/96$
 $a[6,3] = 5/72$
 $a[6,4] = -3/64$
 $a[6,5] = 1/4$
 $a[7,1] = 113369191 / 335160000$
 $a[7,2] = -14519609 / 55860000$
 $a[7,3] = -14519609 / 41895000$
 $a[7,4] = 5993689 / 22344000$

a[7 , 5] = -4759183 / 6982500
a[7 , 6] = 2324452 / 1745625
a[8 , 1] = -927519 / 581875
a[8 , 2] = 3044619 / 2327500
a[8 , 3] = 1014873 / 581875
a[8 , 4] = -678807 / 465500
a[8 , 5] = 4500387 / 1163750
a[8 , 6] = -10646649 / 2327500
a[8 , 7] = 45 / 28
a[9 , 1] = 692786 / 209475
a[9 , 2] = -194813 / 69825
a[9 , 3] = -779252 / 209475
a[9 , 4] = 14909 / 4655
a[9 , 5] = -7313669 / 907725
a[9 , 6] = 3399923 / 302575
a[9 , 7] = -33 / 13
a[9 , 8] = 14 / 39
a[10 , 1] = 0
a[10 , 2] = 0
a[10 , 3] = 0
a[10 , 4] = 0
a[10 , 5] = 53 / 702
a[10 , 6] = 44 / 117
a[10 , 7] = 100 / 273
a[10 , 8] = 50 / 351
a[10 , 9] = 5 / 126
bcap[1] = 2 / 9
bcap[2] = 1 / 3
bcap[3] = 4 / 9
bcap[4] = 0
b[1] = 7 / 36
b[2] = 19 / 36
b[3] = 1 / 6
b[4] = 1 / 9
bstar[1 , 0] = 1
bstar[1 , 1] = -4 / 3
bstar[1 , 2] = 5 / 9
bstar[2 , 0] = 0
bstar[2 , 1] = 1
bstar[2 , 2] = -2 / 3
bstar[3 , 0] = 0
bstar[3 , 1] = 4 / 3
bstar[3 , 2] = -8 / 9
bstar[4 , 0] = 0
bstar[4 , 1] = -1
bstar[4 , 2] = 1
btilde[1] = 0
btilde[2] = 0
btilde[3] = 0
btilde[4] = 0
btilde[5] = 53 / 702
btilde[6] = 44 / 117
btilde[7] = 100 / 273
btilde[8] = 50 / 351
btilde[9] = 5 / 126
btilde[10] = 0
btildestar[1 , 0] = 0
btildestar[1 , 1] = 0
btildestar[1 , 2] = 0
btildestar[1 , 3] = 0

$\text{btildestar}[1,4] = 0$
 $\text{btildestar}[2,0] = 0$
 $\text{btildestar}[2,1] = 0$
 $\text{btildestar}[2,2] = 0$
 $\text{btildestar}[2,3] = 0$
 $\text{btildestar}[2,4] = 0$
 $\text{btildestar}[3,0] = 0$
 $\text{btildestar}[3,1] = 0$
 $\text{btildestar}[3,2] = 0$
 $\text{btildestar}[3,3] = 0$
 $\text{btildestar}[3,4] = 0$
 $\text{btildestar}[4,0] = 0$
 $\text{btildestar}[4,1] = 0$
 $\text{btildestar}[4,2] = 0$
 $\text{btildestar}[4,3] = 0$
 $\text{btildestar}[4,4] = 0$
 $\text{btildestar}[5,0] = 1$
 $\text{btildestar}[5,1] = -895 / 234$
 $\text{btildestar}[5,2] = 2218 / 351$
 $\text{btildestar}[5,3] = -56017$
 $\text{btildestar}[5,4] = 16017$
 $\text{btildestar}[6,0] = 0$
 $\text{btildestar}[6,1] = 6 / 1$
 $\text{btildestar}[6,2] = -1708 / 117$
 $\text{btildestar}[6,3] = 1703$
 $\text{btildestar}[6,4] = -160 / 39$
 $\text{btildestar}[7,0] = 0$
 $\text{btildestar}[7,1] = -450 / 91$
 $\text{btildestar}[7,2] = 5500 / 273$
 $\text{btildestar}[7,3] = -2150 / 91$
 $\text{btildestar}[7,4] = 800 / 91$
 $\text{btildestar}[8,0] = 0$
 $\text{btildestar}[8,1] = 50 / 9$
 $\text{btildestar}[8,2] = -8500 / 351$
 $\text{btildestar}[8,3] = 380017$
 $\text{btildestar}[8,4] = -160017$
 $\text{btildestar}[9,0] = 0$
 $\text{btildestar}[9,1] = 974 / 315$
 $\text{btildestar}[9,2] = -1382 / 105$
 $\text{btildestar}[9,3] = 2173 / 126$
 $\text{btildestar}[9,4] = -2248 / 315$
 $\text{btildestar}[10,0] = 0$
 $\text{btildestar}[10,1] = -529 / 90$
 $\text{btildestar}[10,2] = 1148 / 45$
 $\text{btildestar}[10,3] = -619 / 18$
 $\text{btildestar}[10,4] = 664 / 45$

Coefficients associated with the integrator RKT4(3)4 and the extrapolator XTR4:

$c[1] = 0$
 $c[2] = 4 / 15$
 $c[3] = 2 / 5$
 $c[4] = 24 / 25$
 $c[5] = 1$
 $c[6] = 1$
 $c[7] = 0$
 $c[8] = 3 / 16$
 $c[9] = 5 / 9$
 $c[10] = 9 / 10$
 $c[11] = 1$
 $a[2,1] = 4 / 15$

a[3,1] = 1 / 10
a[3,2] = 3 / 10
a[4,1] = 528 / 625
a[4,2] = -1944 / 625
a[4,3] = 2016 / 625
a[5,1] = 337 / 272
a[5,2] = -645 / 136
a[5,3] = 2175 / 476
a[5,4] = -125 / 1904
a[6,1] = 73 / 576
a[6,2] = 0
a[6,3] = 575 / 1008
a[6,4] = 3125 / 4032
a[6,5] = -17 / 36
a[7,1] = 0
a[7,2] = 0
a[7,3] = 0
a[7,4] = 0
a[7,5] = 0
a[7,6] = 0
a[8,1] = -281583 / 4194304
a[8,2] = 0
a[8,3] = 703275 / 7340032
a[8,4] = -5821875 / 29360128
a[8,5] = 1534233 / 11272192
a[8,6] = 94419 / 2818048
a[8,7] = 3 / 16
a[9,1] = -437018459 / 3224862720
a[9,2] = 0
a[9,3] = 85250555 / 1128701952
a[9,4] = 1715348125 / 4514807808
a[9,5] = -2118166867 / 8666818560
a[9,6] = -54567023 / 722234880
a[9,7] = 161 / 1215
a[9,8] = 514 / 1215
a[10,1] = -85 / 3072
a[10,2] = 0
a[10,3] = -61 / 1792
a[10,4] = -1025 / 21504
a[10,5] = 10013 / 344000
a[10,6] = 6903 / 86000
a[10,7] = 1867 / 15000
a[10,8] = 4096 / 19875
a[10,9] = 150903 / 265000
a[11,1] = 0
a[11,2] = 0
a[11,3] = 0
a[11,4] = 0
a[11,5] = 0
a[11,6] = 0
a[11,7] = 43 / 810
a[11,8] = 8192 / 27189
a[11,9] = 6561 / 16430
a[11,10] = 11750 / 47709
bcap[1] = 73 / 576
bcap[2] = 0
bcap[3] = 575 / 1008
bcap[4] = 3125 / 4032
bcap[5] = -17 / 36
bcap[6] = 0

$b[1] = 1/12$
 $b[2] = 0$
 $b[3] = 25/36$
 $b[4] = 0$
 $b[5] = 2/9$
 $b[6] = 0$
 $bstar[1,0] = 1$
 $bstar[1,1] = -109/48$
 $bstar[1,2] = 295/144$
 $bstar[1,3] = -125/192$
 $bstar[2,0] = 0$
 $bstar[2,1] = 0$
 $bstar[2,2] = 0$
 $bstar[2,3] = 0$
 $bstar[3,0] = 0$
 $bstar[3,1] = 25/7$
 $bstar[3,2] = -175/36$
 $bstar[3,3] = 625/336$
 $bstar[4,0] = 0$
 $bstar[4,1] = -3125/336$
 $bstar[4,2] = 3125/144$
 $bstar[4,3] = -15625/1344$
 $bstar[5,0] = 0$
 $bstar[5,1] = 272/43$
 $bstar[5,2] = -5627/387$
 $bstar[5,3] = 3995/516$
 $bstar[6,0] = 0$
 $bstar[6,1] = 72/43$
 $bstar[6,2] = -187/43$
 $bstar[6,3] = 115/43$
 $btilde[1] = 0$
 $btilde[2] = 0$
 $btilde[3] = 0$
 $btilde[4] = 0$
 $btilde[5] = 0$
 $btilde[6] = 0$
 $btilde[7] = 43/810$
 $btilde[8] = 8192/27189$
 $btilde[9] = 6561/16430$
 $btilde[10] = 11750/47709$
 $btilde[11] = 0$
 $btildestar[1,0] = 0$
 $btildestar[1,1] = 0$
 $btildestar[1,2] = 0$
 $btildestar[1,3] = 0$
 $btildestar[1,4] = 0$
 $btildestar[2,0] = 0$
 $btildestar[2,1] = 0$
 $btildestar[2,2] = 0$
 $btildestar[2,3] = 0$
 $btildestar[2,4] = 0$
 $btildestar[3,0] = 0$
 $btildestar[3,1] = 0$
 $btildestar[3,2] = 0$
 $btildestar[3,3] = 0$
 $btildestar[3,4] = 0$
 $btildestar[4,0] = 0$
 $btildestar[4,1] = 0$
 $btildestar[4,2] = 0$
 $btildestar[4,3] = 0$

$\text{btildestar}[4,4] = 0$
 $\text{btildestar}[5,0] = 0$
 $\text{btildestar}[5,1] = 0$
 $\text{btildestar}[5,2] = 0$
 $\text{btildestar}[5,3] = 0$
 $\text{btildestar}[5,4] = 0$
 $\text{btildestar}[6,0] = 0$
 $\text{btildestar}[6,1] = 0$
 $\text{btildestar}[6,2] = 0$
 $\text{btildestar}[6,3] = 0$
 $\text{btildestar}[6,4] = 0$
 $\text{btildestar}[7,0] = 1$
 $\text{btildestar}[7,1] = -208 / 45$
 $\text{btildestar}[7,2] = 3479 / 405$
 $\text{btildestar}[7,3] = -1903 / 270$
 $\text{btildestar}[7,4] = 32 / 15$
 $\text{btildestar}[8,0] = 0$
 $\text{btildestar}[8,1] = 819203091$
 $\text{btildestar}[8,2] = -5767168 / 353457$
 $\text{btildestar}[8,3] = 139264 / 9063$
 $\text{btildestar}[8,4] = -65536 / 13091$
 $\text{btildestar}[9,0] = 0$
 $\text{btildestar}[9,1] = -177147 / 65720$
 $\text{btildestar}[9,2] = 439587 / 32860$
 $\text{btildestar}[9,3] = -1095687 / 65720$
 $\text{btildestar}[9,4] = 52488 / 8215$
 $\text{btildestar}[10,0] = 0$
 $\text{btildestar}[10,1] = 12500 / 5301$
 $\text{btildestar}[10,2] = -610000 / 47709$
 $\text{btildestar}[10,3] = 3137505903$
 $\text{btildestar}[10,4] = -16000767$
 $\text{btildestar}[11,0] = 0$
 $\text{btildestar}[11,1] = -135 / 104$
 $\text{btildestar}[11,2] = 371 / 52$
 $\text{btildestar}[11,3] = -91 / 8$
 $\text{btildestar}[11,4] = 72 / 13$

Coefficients associated with the integrator RKT4(3)4 and the extrapolator XTR5:

$c[1] = 0$
 $c[2] = 4 / 15$
 $c[3] = 2 / 5$
 $c[4] = 24 / 25$
 $c[5] = 1$
 $c[6] = 1$
 $c[7] = 0$
 $c[8] = 1 / 6$
 $c[9] = 1 / 2$
 $c[10] = 5 / 6$
 $c[11] = 1$
 $c[12] = 1$
 $a[2,1] = 4 / 15$
 $a[3,1] = 1 / 10$
 $a[3,2] = 3 / 10$
 $a[4,1] = 528 / 625$
 $a[4,2] = -1944 / 625$
 $a[4,3] = 2016 / 625$
 $a[5,1] = 337 / 272$
 $a[5,2] = -645 / 136$
 $a[5,3] = 2175 / 476$
 $a[5,4] = -125 / 1904$

a[6 , 1] = 73 / 576
a[6 , 2] = 0
a[6 , 3] = 575 / 1008
a[6 , 4] = 3125 / 4032
a[6 , 5] = -17 / 36
a[7 , 1] = 0
a[7 , 2] = 0
a[7 , 3] = 0
a[7 , 4] = 0
a[7 , 5] = 0
a[7 , 6] = 0
a[8 , 1] = -4487 / 82944
a[8 , 2] = 0
a[8 , 3] = 34025 / 435456
a[8 , 4] = -96875 / 580608
a[8 , 5] = 76483 / 668736
a[8 , 6] = 1585 / 55728
a[8 , 7] = 1 / 6
a[9 , 1] = 2665 / 27648
a[9 , 2] = 0
a[9 , 3] = -1475 / 6912
a[9 , 4] = 21875 / 27648
a[9 , 5] = -39559 / 74304
a[9 , 6] = -439 / 3096
a[9 , 7] = -1 / 4
a[9 , 8] = 3 / 4
a[10 , 1] = -18805837 / 57480192
a[10 , 2] = 0
a[10 , 3] = 61551425 / 100590336
a[10 , 4] = -80096875 / 36578304
a[10 , 5] = 32546653 / 22068288
a[10 , 6] = 5537915 / 12873168
a[10 , 7] = 1940 / 2079
a[10 , 8] = -5813 / 5544
a[10 , 9] = 15779 / 16632
a[11 , 1] = 21586717 / 14902272
a[11 , 2] = 0
a[11 , 3] = -60390425 / 26078976
a[11 , 4] = 70346875 / 9483264
a[11 , 5] = -4096099 / 817344
a[11 , 6] = -5137745 / 3337488
a[11 , 7] = -1832 / 539
a[11 , 8] = 43077 / 8624
a[11 , 9] = -13457 / 8624
a[11 , 10] = 27 / 28
a[12 , 1] = 0
a[12 , 2] = 0
a[12 , 3] = 0
a[12 , 4] = 0
a[12 , 5] = 0
a[12 , 6] = 0
a[12 , 7] = 7 / 150
a[12 , 8] = 27 / 100
a[12 , 9] = 11 / 30
a[12 , 10] = 27 / 100
a[12 , 11] = 7 / 150
bcap[1] = 73 / 576
bcap[2] = 0
bcap[3] = 575 / 1008
bcap[4] = 3125 / 4032

$b_{cap}[5] = -17/36$
 $b_{cap}[6] = 0$
 $b[1] = 1/12$
 $b[2] = 0$
 $b[3] = 25/36$
 $b[4] = 0$
 $b[5] = 2/9$
 $b[6] = 0$
 $b_{star}[1,0] = 1$
 $b_{star}[1,1] = -109/48$
 $b_{star}[1,2] = 295/144$
 $b_{star}[1,3] = -125/192$
 $b_{star}[2,0] = 0$
 $b_{star}[2,1] = 0$
 $b_{star}[2,2] = 0$
 $b_{star}[2,3] = 0$
 $b_{star}[3,0] = 0$
 $b_{star}[3,1] = 25/7$
 $b_{star}[3,2] = -175/36$
 $b_{star}[3,3] = 625/336$
 $b_{star}[4,0] = 0$
 $b_{star}[4,1] = -3125/336$
 $b_{star}[4,2] = 3125/144$
 $b_{star}[4,3] = -15625/1344$
 $b_{star}[5,0] = 0$
 $b_{star}[5,1] = 272/43$
 $b_{star}[5,2] = -5627/387$
 $b_{star}[5,3] = 3995/516$
 $b_{star}[6,0] = 0$
 $b_{star}[6,1] = 72/43$
 $b_{star}[6,2] = -187/43$
 $b_{star}[6,3] = 115/43$
 $b_{tilde}[1] = 0$
 $b_{tilde}[2] = 0$
 $b_{tilde}[3] = 0$
 $b_{tilde}[4] = 0$
 $b_{tilde}[5] = 0$
 $b_{tilde}[6] = 0$
 $b_{tilde}[7] = 7/150$
 $b_{tilde}[8] = 27/100$
 $b_{tilde}[9] = 11/30$
 $b_{tilde}[10] = 27/100$
 $b_{tilde}[11] = 7/150$
 $b_{tilde}[12] = 0$
 $b_{tildestar}[1,0] = 0$
 $b_{tildestar}[1,1] = 0$
 $b_{tildestar}[1,2] = 0$
 $b_{tildestar}[1,3] = 0$
 $b_{tildestar}[1,4] = 0$
 $b_{tildestar}[2,0] = 0$
 $b_{tildestar}[2,1] = 0$
 $b_{tildestar}[2,2] = 0$
 $b_{tildestar}[2,3] = 0$
 $b_{tildestar}[2,4] = 0$
 $b_{tildestar}[3,0] = 0$
 $b_{tildestar}[3,1] = 0$
 $b_{tildestar}[3,2] = 0$
 $b_{tildestar}[3,3] = 0$
 $b_{tildestar}[3,4] = 0$
 $b_{tildestar}[4,0] = 0$

btildestar[4 , 1] = 0
 btildestar[4 , 2] = 0
 btildestar[4 , 3] = 0
 btildestar[4 , 4] = 0
 btildestar[5 , 0] = 0
 btildestar[5 , 1] = 0
 btildestar[5 , 2] = 0
 btildestar[5 , 3] = 0
 btildestar[5 , 4] = 0
 btildestar[6 , 0] = 0
 btildestar[6 , 1] = 0
 btildestar[6 , 2] = 0
 btildestar[6 , 3] = 0
 btildestar[6 , 4] = 0
 btildestar[7 , 0] = 1
 btildestar[7 , 1] = -51 / 10
 btildestar[7 , 2] = 154 / 15
 btildestar[7 , 3] = -9 / 1
 btildestar[7 , 4] = 72 / 25
 btildestar[8 , 0] = 0
 btildestar[8 , 1] = 27 / 4
 btildestar[8 , 2] = -189 / 10
 btildestar[8 , 3] = 189 / 10
 btildestar[8 , 4] = -162 / 25
 btildestar[9 , 0] = 0
 btildestar[9 , 1] = -5 / 2
 btildestar[9 , 2] = 41 / 3
 btildestar[9 , 3] = -18 / 1
 btildestar[9 , 4] = 36 / 5
 btildestar[10 , 0] = 0
 btildestar[10 , 1] = 27 / 20
 btildestar[10 , 2] = -81 / 10
 btildestar[10 , 3] = 27 / 2
 btildestar[10 , 4] = -162 / 25
 btildestar[11 , 0] = 0
 btildestar[11 , 1] = 71 / 90
 btildestar[11 , 2] = -37 / 9
 btildestar[11 , 3] = 274 / 45
 btildestar[11 , 4] = -68 / 25
 btildestar[12 , 0] = 0
 btildestar[12 , 1] = -58 / 45
 btildestar[12 , 2] = 323 / 45
 btildestar[12 , 3] = -517 / 45
 btildestar[12 , 4] = 28 / 5

Coefficients associated with the integrator RKT4(3)4 and the extrapolator XTR6:

c[1] = 0.0E0
 c[2] = 2.66666666666666666666666666667E-1
 c[3] = 4.0E-1
 c[4] = 9.6E-1
 c[5] = 1.0E0
 c[6] = 1.0E0
 c[7] = 0.0E0
 c[8] = 1.42857142857142857142857142857E-1
 c[9] = 2.30769230769230769230769230769E-1
 c[10] = 5.55555555555555555555555555556E-1
 c[11] = 8.63157894736842105263157894737E-1
 c[12] = 1.0E0
 c[13] = 1.0E0
 c[14] = 5.0E-1

a[2 , 1] = 2.666666666666666666666666666667E-1
a[3 , 1] = 1.0E-1
a[3 , 2] = 3.0E-1
a[4 , 1] = 8.448E-1
a[4 , 2] = -3.1104E0
a[4 , 3] = 3.2256E0
a[5 , 1] = 1.23897058823529411764705882353E0
a[5 , 2] = -4.74264705882352941176470588235E0
a[5 , 3] = 4.56932773109243697478991596639E0
a[5 , 4] = -6.5651260504201680672268907563E-2
a[6 , 1] = 1.2673611111111111111111111111111E-1
a[6 , 2] = 0.0E0
a[6 , 3] = 5.70436507936507936507936507937E-1
a[6 , 4] = 7.75049603174603174603174603175E-1
a[6 , 5] = -4.72222222222222222222222222222E-1
a[7 , 1] = 0.0E0
a[7 , 2] = 0.0E0
a[7 , 3] = 0.0E0
a[7 , 4] = 0.0E0
a[7 , 5] = 0.0E0
a[7 , 6] = 0.0E0
a[8 , 1] = -4.06420646489888472395761025499E-2
a[8 , 2] = 0.0E0
a[8 , 3] = 5.94886885755273926869095548812E-2
a[8 , 4] = -1.31380753224516239926485657431E-1
a[8 , 5] = 8.99272697530206513866423012806E-2
a[8 , 6] = 2.26068595449570430925099038191E-2
a[8 , 7] = 1.42857142857142857142857142857E-1
a[9 , 1] = 1.36707264222869918948987809122E-3
a[9 , 2] = 0.0E0
a[9 , 3] = -3.03506825909824432856768230608E-3
a[9 , 4] = 1.13492078307561851912682823108E-2
a[9 , 5] = -7.6352079472462598350058901067E-3
a[9 , 6] = -2.04600426664038021718458798923E-3
a[9 , 7] = 4.43786982248520710059171597633E-2
a[9 , 8] = 1.86390532544378698224852071006E-1
a[10 , 1] = -6.02283444215432924753615872692E-2
a[10 , 2] = 0.0E0
a[10 , 3] = 1.08721081912348047480484750288E-2
a[10 , 4] = 2.88511848072414915650381692196E-1
a[10 , 5] = -1.88528812854327708621978982193E-1
a[10 , 6] = -5.06267989877787193010895977633E-2
a[10 , 7] = 1.54394018700696122821152655065E-1
a[10 , 8] = -2.22729811806966600759210077615E-1
a[10 , 9] = 6.23891348661826033493612978105E-1
a[11 , 1] = 3.78861386712358568649118057106E-1
a[11 , 2] = 0.0E0
a[11 , 3] = -2.07821028749301588272518912508E-1
a[11 , 4] = -1.11264394172382829786798734E0
a[11 , 5] = 7.16566374339486338487021972414E-1
a[11 , 6] = 2.25037209421284979004366222987E-1
a[11 , 7] = -6.0826893078053196551014733392E-1
a[11 , 8] = 1.71665292768580631775427025743E0
a[11 , 9] = -1.45690979639848364330585509481E0
a[11 , 10] = 1.21168369423005139632489006603E0
a[12 , 1] = -1.76392047769246759216062601885E0
a[12 , 2] = 0.0E0
a[12 , 3] = 1.09155192938578197676994246758E0
a[12 , 4] = 4.72157706264315833903318087224E0
a[12 , 5] = -3.02753452633925292130062625439E0

a[12 , 6] = -1.02167398799721980234187106658E0
a[12 , 7] = 3.24249704608088310743404350215E0
a[12 , 8] = -7.57141322783602534926258705808E0
a[12 , 9] = 7.9258926487138366221261207233E0
a[12 , 10] = -3.49169260747773111582487056777E0
a[12 , 11] = 8.94716140519036735527293400398E-1
a[13 , 1] = 0.0E0
a[13 , 2] = 0.0E0
a[13 , 3] = 0.0E0
a[13 , 4] = 0.0E0
a[13 , 5] = 0.0E0
a[13 , 6] = 0.0E0
a[13 , 7] = 5.34688346883468834688346883469E-2
a[13 , 8] = 1.06368909810324215334653748015E-1
a[13 , 9] = 2.14593514369042538056622563665E-1
a[13 , 10] = 3.56211063176367358876864580287E-1
a[13 , 11] = 2.3362584034908139742541758208E-1
a[13 , 12] = 3.57318376068376068376068376068E-2
a[14 , 1] = 0.0E0
a[14 , 2] = 0.0E0
a[14 , 3] = 0.0E0
a[14 , 4] = 0.0E0
a[14 , 5] = 0.0E0
a[14 , 6] = 0.0E0
a[14 , 7] = 6.91442242547425474254742547425E-2
a[14 , 8] = 8.15631645985002587299038238495E-3
a[14 , 9] = 3.31691417642534499928866126049E-1
a[14 , 10] = 1.044570952306961099736765136E-1
a[14 , 11] = -1.97890308848317302095542853242E-2
a[14 , 12] = 0.0E0
a[14 , 13] = 6.33997729700854700854700854701E-3
bcap[1] = 1.26736111111111111111111111111E-1
bcap[2] = 0.0E0
bcap[3] = 5.70436507936507936507936507937E-1
bcap[4] = 7.75049603174603174603174603175E-1
bcap[5] = -4.722222222222222222222222222E-1
bcap[6] = 0.0E0
b[1] = 8.33333333333333333333333333333E-2
b[2] = 0.0E0
b[3] = 6.94444444444444444444444444444E-1
b[4] = 0.0E0
b[5] = 2.222222222222222222222222222E-1
b[6] = 0.0E0
bstar[1 , 0] = 1.0E0
bstar[1 , 1] = -2.27083333333333333333333333333E0
bstar[1 , 2] = 2.04861111111111111111111111111E0
bstar[1 , 3] = -6.510416666666666666666666666E-1
bstar[2 , 0] = 0.0E0
bstar[2 , 1] = 0.0E0
bstar[2 , 2] = 0.0E0
bstar[2 , 3] = 0.0E0
bstar[3 , 0] = 0.0E0
bstar[3 , 1] = 3.57142857142857142857142857143E0
bstar[3 , 2] = -4.86111111111111111111111111111E0
bstar[3 , 3] = 1.86011904761904761904761904762E0
bstar[4 , 0] = 0.0E0
bstar[4 , 1] = -9.3005952380952380952380952381E0
bstar[4 , 2] = 2.17013888888888888888888888889E1
bstar[4 , 3] = -1.16257440476190476190476190476E1
bstar[5 , 0] = 0.0E0

bstar[5 , 1] = 6.3255813953488372093023255814E0
bstar[5 , 2] = -1.45400516795865633074935400517E1
bstar[5 , 3] = 7.74224806201550387596899224806E0
bstar[6 , 0] = 0.0E0
bstar[6 , 1] = 1.6744186046511627906976744186E0
bstar[6 , 2] = -4.34883720930232558139534883721E0
bstar[6 , 3] = 2.6744186046511627906976744186E0
btilde[1] = 0.0E0
btilde[2] = 0.0E0
btilde[3] = 0.0E0
btilde[4] = 0.0E0
btilde[5] = 0.0E0
btilde[6] = 0.0E0
btilde[7] = 5.34688346883468834688346883469E-2
btilde[8] = 1.06368909810324215334653748015E-1
btilde[9] = 2.14593514369042538056622563665E-1
btilde[10] = 3.56211063176367358876864580287E-1
btilde[11] = 2.3362584034908139742541758208E-1
btilde[12] = 3.57318376068376068376068376068E-2
btilde[13] = 0.0E0
btilde[14] = 0.0E0
btildestar[1 , 0] = 0.0E0
btildestar[1 , 1] = 0.0E0
btildestar[1 , 2] = 0.0E0
btildestar[1 , 3] = 0.0E0
btildestar[1 , 4] = 0.0E0
btildestar[1 , 5] = 0.0E0
btildestar[2 , 0] = 0.0E0
btildestar[2 , 1] = 0.0E0
btildestar[2 , 2] = 0.0E0
btildestar[2 , 3] = 0.0E0
btildestar[2 , 4] = 0.0E0
btildestar[2 , 5] = 0.0E0
btildestar[3 , 0] = 0.0E0
btildestar[3 , 1] = 0.0E0
btildestar[3 , 2] = 0.0E0
btildestar[3 , 3] = 0.0E0
btildestar[3 , 4] = 0.0E0
btildestar[3 , 5] = 0.0E0
btildestar[4 , 0] = 0.0E0
btildestar[4 , 1] = 0.0E0
btildestar[4 , 2] = 0.0E0
btildestar[4 , 3] = 0.0E0
btildestar[4 , 4] = 0.0E0
btildestar[4 , 5] = 0.0E0
btildestar[5 , 0] = 0.0E0
btildestar[5 , 1] = 0.0E0
btildestar[5 , 2] = 0.0E0
btildestar[5 , 3] = 0.0E0
btildestar[5 , 4] = 0.0E0
btildestar[5 , 5] = 0.0E0
btildestar[6 , 0] = 0.0E0
btildestar[6 , 1] = 0.0E0
btildestar[6 , 2] = 0.0E0
btildestar[6 , 3] = 0.0E0
btildestar[6 , 4] = 0.0E0
btildestar[6 , 5] = 0.0E0
btildestar[7 , 0] = 1.0E0
btildestar[7 , 1] = -6.65229006707997278511424065699E0
btildestar[7 , 2] = 2.14315272764681112503551003149E1

btildestar[7, 3] = -3.48351640143296730775266179849E1
btildestar[7, 4] = 2.73057194757049848452579057832E1
btildestar[7, 5] = -8.19632383607510334950331276784E0
btildestar[8, 0] = 0.0E0
btildestar[8, 1] = 1.04184370696222486073017044551E1
btildestar[8, 2] = -5.88193561497825691818793215657E1
btildestar[8, 3] = 1.22770349454081601279109636201E2
btildestar[8, 4] = -1.10118165278442544149780203038E2
btildestar[8, 5] = 3.58551038143315876605828376952E1
btildestar[9, 0] = 0.0E0
btildestar[9, 1] = -1.58481554454074792501437573193E0
btildestar[9, 2] = 2.93836374544287164271124835393E1
btildestar[9, 3] = -8.34457373561180477271149104134E1
btildestar[9, 4] = 8.63673856133271931012896085184E1
btildestar[9, 5] = -3.05058766527280713382161833488E1
btildestar[10, 0] = 0.0E0
btildestar[10, 1] = 1.52845022031802668186490202272E1
btildestar[10, 2] = -8.68566586870884903050814081245E1
btildestar[10, 3] = 1.78804299097718626438846154533E2
btildestar[10, 4] = -1.5603936456783464508378297812E2
btildestar[10, 5] = 4.91634330172006094902460760644E1
btildestar[11, 0] = 0.0E0
btildestar[11, 1] = -1.86011420424565955170342194311E0
btildestar[11, 2] = 1.220402381187008285212070692E1
btildestar[11, 3] = -3.08158880196181717592262747758E1
btildestar[11, 4] = 3.38619164627032215534566220563E1
btildestar[11, 5] = -1.31563122103603916972222146754E1
btildestar[12, 0] = 0.0E0
btildestar[12, 1] = -1.0785879801581235880929728087E0
btildestar[12, 2] = 6.47594978225073845053434863916E0
btildestar[12, 3] = -1.45708870100641615137022844381E1
btildestar[12, 4] = 1.42426676196496276691990552192E1
btildestar[12, 5] = -5.03341057407124341110053977391E0
btildestar[13, 0] = 0.0E0
btildestar[13, 1] = 1.66742875499518559908960229328E0
btildestar[13, 2] = -1.04495250333012373272640152885E1
btildestar[13, 3] = 2.50114313249277839863440343992E1
btildestar[13, 4] = -2.63440025699325983872544321059E1
btildestar[13, 5] = 1.0114667523310866129084810702E1
btildestar[14, 0] = 0.0E0
btildestar[14, 1] = -1.61945602317731971751153158348E1
btildestar[14, 2] = 8.66304015451546478341021055652E1
btildestar[14, 3] = -1.62918403476597957626729737522E2
btildestar[14, 4] = 1.30723843244824760451614421687E2
btildestar[14, 5] = -3.82412810816082534838714738957E1

Coefficients associated with the integrator RK5(4)7FM (5th order dense) and the extrapolator XTR7:

c[1] = 0.0E0
c[2] = 2.0E-1
c[3] = 3.0E-1
c[4] = 8.0E-1
c[5] = 8.88888888888888888888888888889E-1
c[6] = 1.0E0
c[7] = 1.0E0
c[8] = 1.66666666666666666666666666667E-1
c[9] = 8.33333333333333333333333333333E-1
c[10] = 0.0E0
c[11] = 8.27326835353988571899146228123E-1
c[12] = 1.72673164646011428100853771877E-1
c[13] = 5.0E-1

c[14] = 8.27326835353988571899146228123E-1
c[15] = 1.0E0
c[16] = 1.0E0
c[17] = 6.25E-1
a[2 , 1] = 2.0E-1
a[3 , 1] = 7.5E-2
a[3 , 2] = 2.25E-1
a[4 , 1] = 9.7777777777777777777777777777778E-1
a[4 , 2] = -3.7333333333333333333333333333333E0
a[4 , 3] = 3.5555555555555555555555555555556E0
a[5 , 1] = 2.95259868922420362749580856577E0
a[5 , 2] = -1.15957933241883859167809785094E-1
a[5 , 3] = 9.82289285169943606157597927145E0
a[5 , 4] = -2.90809327846364883401920438957E-1
a[6 , 1] = 2.84627525252525252525252525253E0
a[6 , 2] = -1.07575757575757575757575757576E1
a[6 , 3] = 8.90642271774347246045359252906E0
a[6 , 4] = 2.78409090909090909090909090909E-1
a[6 , 5] = -2.73531303602058319039451114923E-1
a[7 , 1] = 9.11458333333333333333333333333E-2
a[7 , 2] = 0.0E0
a[7 , 3] = 4.4923629829290206648697214735E-1
a[7 , 4] = 6.51041666666666666666666666667E-1
a[7 , 5] = -3.22376179245283018867924528302E-1
a[7 , 6] = 1.30952380952380952380952380952E-1
a[8 , 1] = 1.00389017489711934156378600823E-1
a[8 , 2] = 0.0E0
a[8 , 3] = 8.61382871340942619768615575743E-2
a[8 , 4] = -7.2337962962962962962962962963E-2
a[8 , 5] = 5.90359669811320754716981132075E-2
a[8 , 6] = -3.67300252130064336637106590158E-2
a[8 , 7] = 3.01713832376977916884020170405E-2
a[9 , 1] = 1.41294572688042981252857796068E-1
a[9 , 2] = 0.0E0
a[9 , 3] = 6.38863777257674299370083204232E-1
a[9 , 4] = 3.87115621728575554111616489784E-1
a[9 , 5] = -1.47175339033018867924528301887E-1
a[9 , 6] = 3.765974029869782553526341792E-2
a[9 , 7] = -2.82749421407515194408091753176E-2
a[9 , 8] = -1.96150097465886939571150097466E-1
a[10 , 1] = 0.0E0
a[10 , 2] = 0.0E0
a[10 , 3] = 0.0E0
a[10 , 4] = 0.0E0
a[10 , 5] = 0.0E0
a[10 , 6] = 0.0E0
a[10 , 7] = 0.0E0
a[10 , 8] = 0.0E0
a[10 , 9] = 0.0E0
a[11 , 1] = -7.3038910778074077924773901159E-1
a[11 , 2] = 0.0E0
a[11 , 3] = 4.72606665147077473555337678477E-1
a[11 , 4] = 6.8491044050611618237902452623E-1
a[11 , 5] = -3.39146973597028548874624899366E-1
a[11 , 6] = 1.37764842890373083541380933276E-1
a[11 , 7] = -6.83374891996492892081868293841E-2
a[11 , 8] = -2.36021481667475304603513008623E-2
a[11 , 9] = -1.33806229799400591684841096781E-1
a[11 , 10] = 8.27326835353988571899146228123E-1
a[12 , 1] = -9.11606181884843217938517380125E-2

a[12 , 2] = 0.0E0
a[12 , 3] = -2.38209240389899104239496795612E-2
a[12 , 4] = -3.45217297596299092472083246766E-2
a[12 , 5] = 1.70941184115420252506365145814E-2
a[12 , 6] = -6.9437993573655588885813315921E-3
a[12 , 7] = -7.24616763318827408754005316144E-4
a[12 , 8] = 1.3424100429223623157372070772E-1
a[12 , 9] = 5.83656540401027093798785685739E-3
a[12 , 10] = 1.54653670707977143798292456247E-1
a[12 , 11] = 1.80194939380342843025613156297E-2
a[13 , 1] = 1.48295454545454545454545454545E-1
a[13 , 2] = 0.0E0
a[13 , 3] = 2.10032555046032134980922042917E-1
a[13 , 4] = 3.04383116883116883116883116883E-1
a[13 , 5] = -1.50721330556236216613575104141E-1
a[13 , 6] = 6.12244897959183673469387755102E-2
a[13 , 7] = -1.21753246753246753246753246753E-2
a[13 , 8] = -3.68912337662337662337662337662E-1
a[13 , 9] = -1.92126623376623376623376623377E-1
a[13 , 10] = -8.33333333333333333333333333333E-2
a[13 , 11] = 3.70791280580088885228862670151E-2
a[13 , 12] = 5.46254205275324444810447066318E-1
a[14 , 1] = -1.24086365248813202812797262268E-1
a[14 , 2] = 0.0E0
a[14 , 3] = -6.80223983393646910815537411769E-1
a[14 , 4] = -9.85793350933761734033454608462E-1
a[14 , 5] = 4.88135107583125338641018542349E-1
a[14 , 6] = -1.98285291159248074502729155531E-1
a[14 , 7] = 4.9519723300368016980875985469E-2
a[14 , 8] = 7.5206334448982921604305415702E-1
a[14 , 9] = 6.98670815362147350499569753192E-1
a[14 , 10] = 1.06034840307624489571835129465E-1
a[14 , 11] = -1.40235692223624126774982628771E-1
a[14 , 12] = -8.3988695991713015925301961855E-2
a[14 , 13] = 9.45516383261701225027595689284E-1
a[15 , 1] = 1.17354788613165310737210213646E-1
a[15 , 2] = 0.0E0
a[15 , 3] = 2.33956854902812751132842852539E0
a[15 , 4] = 3.39054660816185666680799602703E0
a[15 , 5] = -1.67889632423773144082469901384E0
a[15 , 6] = 6.81984232041699169552236915152E-1
a[15 , 7] = -1.7908216012162567425052847203E-1
a[15 , 8] = -2.2020581644368440604012865291E0
a[15 , 9] = -2.46941752904864748294935766626E0
a[15 , 10] = 1.73288477063205922021897959272E-1
a[15 , 11] = 4.01725502253481490631547028326E-1
a[15 , 12] = 1.07713243314651259283659434051E0
a[15 , 13] = -1.59225586442481778070579875277E0
a[15 , 14] = 9.40109451961617775215759424661E-1
a[16 , 1] = 0.0E0
a[16 , 2] = 0.0E0
a[16 , 3] = 0.0E0
a[16 , 4] = 0.0E0
a[16 , 5] = 0.0E0
a[16 , 6] = 0.0E0
a[16 , 7] = 0.0E0
a[16 , 8] = 0.0E0
a[16 , 9] = 0.0E0
a[16 , 10] = 5.0E-2
a[16 , 11] = 0.0E0

a[16 , 12] = 2.722222222222222222222222222222E-1
a[16 , 13] = 3.5555555555555555555555555555556E-1
a[16 , 14] = 2.722222222222222222222222222222E-1
a[16 , 15] = 5.0E-2
a[17 , 1] = 0.0E0
a[17 , 2] = 0.0E0
a[17 , 3] = 0.0E0
a[17 , 4] = 0.0E0
a[17 , 5] = 0.0E0
a[17 , 6] = 0.0E0
a[17 , 7] = 0.0E0
a[17 , 8] = 0.0E0
a[17 , 9] = 0.0E0
a[17 , 10] = 4.5166015625E-2
a[17 , 11] = 0.0E0
a[17 , 12] = 2.88070137252240288839576029394E-1
a[17 , 13] = 2.9432508680555555555555555555556E-1
a[17 , 14] = -5.61299749529584439513158494985E-3
a[17 , 15] = 0.0E0
a[17 , 16] = 3.0517578125E-3
bcap[1] = 9.114583333333333333333333333333E-2
bcap[2] = 0.0E0
bcap[3] = 4.4923629829290206648697214735E-1
bcap[4] = 6.5104166666666666666666666666667E-1
bcap[5] = -3.22376179245283018867924528302E-1
bcap[6] = 1.30952380952380952380952380952E-1
bcap[7] = 0.0E0
bcap[8] = 0.0E0
bcap[9] = 0.0E0
b[1] = 8.991319444444444444444444444444E-2
b[2] = 0.0E0
b[3] = 4.53489068583408206049715483678E-1
b[4] = 6.140625E-1
b[5] = -2.7151238207547169811320754717E-1
b[6] = 8.90476190476190476190476190476E-2
b[7] = 2.5E-2
b[8] = 0.0E0
b[9] = 0.0E0
bstar[1 , 0] = 1.0E0
bstar[1 , 1] = -5.403267045454545454545454545E0
bstar[1 , 2] = 1.19245265151515151515151515152E1
bstar[1 , 3] = -1.11835227272727272727272727273E1
bstar[1 , 4] = 3.753409090909090909090909091E0
bstar[2 , 0] = 0.0E0
bstar[2 , 1] = 0.0E0
bstar[2 , 2] = 0.0E0
bstar[2 , 3] = 0.0E0
bstar[2 , 4] = 0.0E0
bstar[3 , 0] = 0.0E0
bstar[3 , 1] = -3.0629747610879686351384464592E0
bstar[3 , 2] = 1.67442620272808952054235073103E1
bstar[3 , 3] = -2.20534182798333741729968145062E1
bstar[3 , 4] = 8.8213673119333496691987258025E0
bstar[4 , 0] = 0.0E0
bstar[4 , 1] = -4.438920454545454545454545455E0
bstar[4 , 2] = 2.42660984848484848484848484848E1
bstar[4 , 3] = -3.196022727272727272727272727E1
bstar[4 , 4] = 1.278409090909090909090909091E1
bstar[5 , 0] = 0.0E0
bstar[5 , 1] = 2.19801940394511149228130360206E0

bstar[5 , 2] = -1.20158394082332761578044596913E1
bstar[5 , 3] = 1.58257397084048027444253859348E1
bstar[5 , 4] = -6.33029588336192109777015437393E0
bstar[6 , 0] = 0.0E0
bstar[6 , 1] = -8.92857142857142857142857142857E-1
bstar[6 , 2] = 4.88095238095238095238095238095E0
bstar[6 , 3] = -6.42857142857142857142857142857E0
bstar[6 , 4] = 2.57142857142857142857142857143E0
bstar[7 , 0] = 0.0E0
bstar[7 , 1] = -1.81818181818181818181818181818E-1
bstar[7 , 2] = 1.32727272727272727272727272727E0
bstar[7 , 3] = -3.109090909090909090909090909E0
bstar[7 , 4] = 1.96363636363636363636363636364E0
bstar[8 , 0] = 0.0E0
bstar[8 , 1] = 8.590909090909090909090909091E0
bstar[8 , 2] = -2.89636363636363636363636363636E1
bstar[8 , 3] = 3.215454545454545454545454545E1
bstar[8 , 4] = -1.17818181818181818181818181818E1
bstar[9 , 0] = 0.0E0
bstar[9 , 1] = 3.190909090909090909090909091E0
bstar[9 , 2] = -1.816363636363636363636363636E1
bstar[9 , 3] = 2.675454545454545454545454545E1
bstar[9 , 4] = -1.17818181818181818181818181818E1
btilde[1] = 0.0E0
btilde[2] = 0.0E0
btilde[3] = 0.0E0
btilde[4] = 0.0E0
btilde[5] = 0.0E0
btilde[6] = 0.0E0
btilde[7] = 0.0E0
btilde[8] = 0.0E0
btilde[9] = 0.0E0
btilde[10] = 5.0E-2
btilde[11] = 0.0E0
btilde[12] = 2.722222222222222222222222222E-1
btilde[13] = 3.555555555555555555555555555E-1
btilde[14] = 2.722222222222222222222222222E-1
btilde[15] = 5.0E-2
btilde[16] = 0.0E0
btilde[17] = 0.0E0
btildestar[1 , 0] = 0.0E0
btildestar[1 , 1] = 0.0E0
btildestar[1 , 2] = 0.0E0
btildestar[1 , 3] = 0.0E0
btildestar[1 , 4] = 0.0E0
btildestar[1 , 5] = 0.0E0
btildestar[2 , 0] = 0.0E0
btildestar[2 , 1] = 0.0E0
btildestar[2 , 2] = 0.0E0
btildestar[2 , 3] = 0.0E0
btildestar[2 , 4] = 0.0E0
btildestar[2 , 5] = 0.0E0
btildestar[3 , 0] = 0.0E0
btildestar[3 , 1] = 0.0E0
btildestar[3 , 2] = 0.0E0
btildestar[3 , 3] = 0.0E0
btildestar[3 , 4] = 0.0E0
btildestar[3 , 5] = 0.0E0
btildestar[4 , 0] = 0.0E0
btildestar[4 , 1] = 0.0E0

btildestar[14, 2] = 1.00935457815164518633966938505E1
btildestar[14, 3] = -3.55835526312105100125252981432E1
btildestar[14, 4] = 4.49441356885427408969923414615E1
btildestar[14, 5] = -1.89924896739586914101085582649E1
btildestar[15, 0] = 0.0E0
btildestar[15, 1] = 2.02002164502164502164502164502E0
btildestar[15, 2] = -1.04327200577200577200577200577E1
btildestar[15, 3] = 1.81525974025974025974025974026E1
btildestar[15, 4] = -1.37871212121212121212121212121E1
btildestar[15, 5] = 5.09722222222222222222222222222E0
btildestar[16, 0] = 0.0E0
btildestar[16, 1] = -1.18668831168831168831168831169E0
btildestar[16, 2] = 4.54383116883116883116883116883E0
btildestar[16, 3] = -3.4025974025974025974025974026E0
btildestar[16, 4] = -2.07954545454545454545454545455E0
btildestar[16, 5] = 1.125E0
btildestar[17, 0] = 0.0E0
btildestar[17, 1] = 1.3320325203252032520325203252E1
btildestar[17, 2] = -8.88021680216802168021680216802E1
btildestar[17, 3] = 1.9980487804878048780487804878E2
btildestar[17, 4] = -1.86484552845528455284552845528E2
btildestar[17, 5] = 6.21615176151761517615176151762E1

Coefficients associated with the integrator RK5(4)7FM (4th order dense) and the extrapolator XTR8:

c[1] = 0.0E0
c[2] = 2.0E-1
c[3] = 3.0E-1
c[4] = 8.0E-1
c[5] = 8.88888888888888888888888888889E-1
c[6] = 1.0E0
c[7] = 1.0E0
c[8] = 0.0E0
c[9] = 8.48880518607165350639838930163E-2
c[10] = 2.65575603264642893098114059046E-1
c[11] = 5.0E-1
c[12] = 7.34424396735357106901885940954E-1
c[13] = 9.15111948139283464936016106984E-1
c[14] = 1.0E0
c[15] = 1.0E0
c[16] = 6.66666666666666666666666666667E-1
a[2, 1] = 2.0E-1
a[3, 1] = 7.5E-2
a[3, 2] = 2.25E-1
a[4, 1] = 9.77777777777777777777777777778E-1
a[4, 2] = -3.73333333333333333333333333333E0
a[4, 3] = 3.55555555555555555555555555556E0
a[5, 1] = 2.95259868922420362749580856577E0
a[5, 2] = -1.15957933241883859167809785094E1
a[5, 3] = 9.82289285169943606157597927145E0
a[5, 4] = -2.90809327846364883401920438957E-1
a[6, 1] = 2.84627525252525252525252525253E0
a[6, 2] = -1.07575757575757575757575757576E1
a[6, 3] = 8.90642271774347246045359252906E0
a[6, 4] = 2.78409090909090909090909090909E-1
a[6, 5] = -2.73531303602058319039451114923E-1
a[7, 1] = 9.11458333333333333333333333333E-2
a[7, 2] = 0.0E0
a[7, 3] = 4.4923629829290206648697214735E-1
a[7, 4] = 6.51041666666666666666666666667E-1
a[7, 5] = -3.22376179245283018867924528302E-1

a[7 , 6] = 1.30952380952380952380952380952E-1
a[8 , 1] = 0.0E0
a[8 , 2] = 0.0E0
a[8 , 3] = 0.0E0
a[8 , 4] = 0.0E0
a[8 , 5] = 0.0E0
a[8 , 6] = 0.0E0
a[8 , 7] = 0.0E0
a[9 , 1] = -1.87772382063092643306250014558E-2
a[9 , 2] = 0.0E0
a[9 , 3] = 2.54271083235551899863567274744E-2
a[9 , 4] = -2.20775158663857760627295648944E-2
a[9 , 5] = 1.61169739086954290152497782655E-2
a[9 , 6] = -9.17913807049478092115171825417E-3
a[9 , 7] = 8.48980991093920231289977886461E-3
a[9 , 8] = 8.48880518607165350639838930163E-2
a[10 , 1] = -2.80262015535044843958111487094E-2
a[10 , 2] = 0.0E0
a[10 , 3] = 2.00280820825317324327785255379E-2
a[10 , 4] = 2.29239717213398222315214091242E-2
a[10 , 5] = -1.24817604878224721931343213629E-2
a[10 , 6] = 5.9176348911956857029193713035E-3
a[10 , 7] = -8.36172665374028377827383589332E-3
a[10 , 8] = -2.25284109130955644498604483487E-2
a[10 , 9] = 2.88104014177738457547974507394E-1
a[11 , 1] = 4.95309630645676206777221255743E-2
a[11 , 2] = 0.0E0
a[11 , 3] = -7.29771441763174115363178693544E-2
a[11 , 4] = 5.56338250280633288049633759864E-2
a[11 , 5] = -3.80629126220108866226947510366E-2
a[11 , 6] = 2.01950887541472420327805532687E-2
a[11 , 7] = -1.43198200484498933564534344384E-2
a[11 , 8] = 1.0730814386039139756321856007E-1
a[11 , 9] = -1.44199961975057440635508659233E-1
a[11 , 10] = 5.36891818114666043072290099163E-1
a[12 , 1] = 9.15595664331212227011195766059E-2
a[12 , 2] = 0.0E0
a[12 , 3] = -2.6943851167221135078111309377E-2
a[12 , 4] = -1.6861724323819991652099602095E-1
a[12 , 5] = 9.34635598746148225371277615164E-2
a[12 , 6] = -4.27923656574236873700010694581E-2
a[12 , 7] = 5.33303337551086937308610616628E-2
a[12 , 8] = -3.60301600436914692877248686391E-1
a[12 , 9] = 7.88050183319697997219425706019E-1
a[12 , 10] = -4.21525697981505519759207053971E-1
a[12 , 11] = 7.28201511834079322318915975297E-1
a[13 , 1] = -3.97658268444082779202384840234E-1
a[13 , 2] = 0.0E0
a[13 , 3] = 3.44265539227642533877624789396E-1
a[13 , 4] = 1.74208587272338974884261705182E-1
a[13 , 5] = -6.6454083588470810851981323792E-2
a[13 , 6] = 1.83748498550457146012080790219E-2
a[13 , 7] = -7.2736624322473633308728409574E-2
a[13 , 8] = 1.08197888354059022767140027875E0
a[13 , 9] = -1.34646154555632283110904062097E0
a[13 , 10] = 1.49435062036355760320581543608E0
a[13 , 11] = -1.0156809805880219136055247562E0
a[13 , 12] = 7.00924970379480378773365769332E-1
a[14 , 1] = 1.33765206561724553131831150996E0
a[14 , 2] = 0.0E0

a[14 , 3] = -1.33916280664295086045559393029E0
a[14 , 4] = -1.33130736963427673686431038152E-1
a[14 , 5] = -5.18425642707308229819126235642E-2
a[14 , 6] = 7.40748162168700201281071457993E-2
a[14 , 7] = 1.12409226042993805677518936241E-1
a[14 , 8] = -3.4112509121687940781920729021E0
a[14 , 9] = 4.86680239422925747018983656436E0
a[14 , 10] = -3.70435250488739910412510234226E0
a[14 , 11] = 4.42215555015407129439391608861E0
a[14 , 12] = -1.66683822848847700290369899198E0
a[14 , 13] = 4.93483701161341420637121583362E-1
a[15 , 1] = 0.0E0
a[15 , 2] = 0.0E0
a[15 , 3] = 0.0E0
a[15 , 4] = 0.0E0
a[15 , 5] = 0.0E0
a[15 , 6] = 0.0E0
a[15 , 7] = 0.0E0
a[15 , 8] = 2.38095238095238095238095238095E-2
a[15 , 9] = 1.38413023680782974005350203145E-1
a[15 , 10] = 2.15872690604931311708935511141E-1
a[15 , 11] = 2.4380952380952380952380952381E-1
a[15 , 12] = 2.15872690604931311708935511141E-1
a[15 , 13] = 1.38413023680782974005350203145E-1
a[15 , 14] = 2.38095238095238095238095238095E-2
a[16 , 1] = 0.0E0
a[16 , 2] = 0.0E0
a[16 , 3] = 0.0E0
a[16 , 4] = 0.0E0
a[16 , 5] = 0.0E0
a[16 , 6] = 0.0E0
a[16 , 7] = 0.0E0
a[16 , 8] = 2.27317264354301391338428375465E-2
a[16 , 9] = 1.41284101889687228883570588585E-1
a[16 , 10] = 2.1130344383778982238388795894E-1
a[16 , 11] = 2.50331177738585145992553399961E-1
a[16 , 12] = 4.91876562556704229968409942403E-2
a[16 , 13] = -1.16987763511662867275564494664E-2
a[16 , 14] = 0.0E0
a[16 , 15] = 3.52733686067019400352733686067E-3
bcap[1] = 9.11458333333333333333333333333E-2
bcap[2] = 0.0E0
bcap[3] = 4.4923629829290206648697214735E-1
bcap[4] = 6.510416666666666666666666666667E-1
bcap[5] = -3.22376179245283018867924528302E-1
bcap[6] = 1.30952380952380952380952380952E-1
bcap[7] = 0.0E0
b[1] = 8.99131944444444444444444444444E-2
b[2] = 0.0E0
b[3] = 4.53489068583408206049715483678E-1
b[4] = 6.140625E-1
b[5] = -2.7151238207547169811320754717E-1
b[6] = 8.90476190476190476190476190476E-2
b[7] = 2.5E-2
bstar[1 , 0] = 1.0E0
bstar[1 , 1] = -2.86053866903708863097943370886E0
bstar[1 , 2] = 3.09957787870912092268605753793E0
bstar[1 , 3] = -1.16181058364030928576714728262E0
bstar[1 , 4] = 1.39172073016103273938567868815E-2
bstar[2 , 0] = 0.0E0

bstar[2 , 1] = 0.0E0
bstar[2 , 2] = 0.0E0
bstar[2 , 3] = 0.0E0
bstar[2 , 4] = 0.0E0
bstar[3 , 0] = 0.0E0
bstar[3 , 1] = 4.04714149964278557319049904942E0
bstar[3 , 2] = -6.34535404693892573505342403023E0
bstar[3 , 3] = 2.79546508641400508297021164893E0
bstar[3 , 4] = -4.80162408249628546203145207772E-2
bstar[4 , 0] = 0.0E0
bstar[4 , 1] = -3.9411600711126589293830112657E0
bstar[4 , 2] = 1.09040030279402943472483928045E1
bstar[4 , 3] = -6.72931750920927857301441847859E0
bstar[4 , 4] = 4.17516219048309821815703606446E-1
bstar[5 , 0] = 0.0E0
bstar[5 , 1] = 2.84194470158703464060417964659E0
bstar[5 , 2] = -7.54767586295938599838505349903E0
bstar[5 , 3] = 4.95763672493125298061794541678E0
bstar[5 , 4] = -5.74281742804184641704996092639E-1
bstar[6 , 0] = 0.0E0
bstar[6 , 1] = -1.61098863591679981695877654898E0
bstar[6 , 2] = 4.21891583903951799403815189973E0
bstar[6 , 3] = -2.95010386556673177529521224777E0
bstar[6 , 4] = 4.73129043396394550596789277968E-1
bstar[7 , 0] = 0.0E0
bstar[7 , 1] = 1.52360117483672716352654282751E0
bstar[7 , 2] = -4.32946683579062153053412471291E0
bstar[7 , 3] = 3.08813014707106157048862094327E0
bstar[7 , 4] = -2.82264486117167203481039057879E-1
btilde[1] = 0.0E0
btilde[2] = 0.0E0
btilde[3] = 0.0E0
btilde[4] = 0.0E0
btilde[5] = 0.0E0
btilde[6] = 0.0E0
btilde[7] = 0.0E0
btilde[8] = 2.38095238095238095238095238095E-2
btilde[9] = 1.38413023680782974005350203145E-1
btilde[10] = 2.15872690604931311708935511141E-1
btilde[11] = 2.4380952380952380952380952381E-1
btilde[12] = 2.15872690604931311708935511141E-1
btilde[13] = 1.38413023680782974005350203145E-1
btilde[14] = 2.38095238095238095238095238095E-2
btilde[15] = 0.0E0
btilde[16] = 0.0E0
btildestar[1 , 0] = 0.0E0
btildestar[1 , 1] = 0.0E0
btildestar[1 , 2] = 0.0E0
btildestar[1 , 3] = 0.0E0
btildestar[1 , 4] = 0.0E0
btildestar[1 , 5] = 0.0E0
btildestar[1 , 6] = 0.0E0
btildestar[2 , 0] = 0.0E0
btildestar[2 , 1] = 0.0E0
btildestar[2 , 2] = 0.0E0
btildestar[2 , 3] = 0.0E0
btildestar[2 , 4] = 0.0E0
btildestar[2 , 5] = 0.0E0
btildestar[2 , 6] = 0.0E0
btildestar[3 , 0] = 0.0E0

btildestar[3 , 1] = 0.0E0
 btildestar[3 , 2] = 0.0E0
 btildestar[3 , 3] = 0.0E0
 btildestar[3 , 4] = 0.0E0
 btildestar[3 , 5] = 0.0E0
 btildestar[3 , 6] = 0.0E0
 btildestar[4 , 0] = 0.0E0
 btildestar[4 , 1] = 0.0E0
 btildestar[4 , 2] = 0.0E0
 btildestar[4 , 3] = 0.0E0
 btildestar[4 , 4] = 0.0E0
 btildestar[4 , 5] = 0.0E0
 btildestar[4 , 6] = 0.0E0
 btildestar[5 , 0] = 0.0E0
 btildestar[5 , 1] = 0.0E0
 btildestar[5 , 2] = 0.0E0
 btildestar[5 , 3] = 0.0E0
 btildestar[5 , 4] = 0.0E0
 btildestar[5 , 5] = 0.0E0
 btildestar[5 , 6] = 0.0E0
 btildestar[6 , 0] = 0.0E0
 btildestar[6 , 1] = 0.0E0
 btildestar[6 , 2] = 0.0E0
 btildestar[6 , 3] = 0.0E0
 btildestar[6 , 4] = 0.0E0
 btildestar[6 , 5] = 0.0E0
 btildestar[6 , 6] = 0.0E0
 btildestar[7 , 0] = 0.0E0
 btildestar[7 , 1] = 0.0E0
 btildestar[7 , 2] = 0.0E0
 btildestar[7 , 3] = 0.0E0
 btildestar[7 , 4] = 0.0E0
 btildestar[7 , 5] = 0.0E0
 btildestar[7 , 6] = 0.0E0
 btildestar[8 , 0] = 1.0E0
 btildestar[8 , 1] = -1.015E1
 btildestar[8 , 2] = 4.433333333333333333333333333333E1
 btildestar[8 , 3] = -9.975E1
 btildestar[8 , 4] = 1.211E2
 btildestar[8 , 5] = -7.536666666666666666666666666667E1
 btildestar[8 , 6] = 1.88571428571428571428571428571E1
 btildestar[9 , 0] = 0.0E0
 btildestar[9 , 1] = 1.32345639531540742012340933209E1
 btildestar[9 , 2] = -8.08435154020035168199605297765E1
 btildestar[9 , 3] = 2.08381209069624719149762739993E2
 btildestar[9 , 4] = -2.71805886916565532542057323141E2
 btildestar[9 , 5] = 1.76638279632266084726535530227E2
 btildestar[9 , 6] = -4.546623731279504574150916042E1
 btildestar[10 , 0] = 0.0E0
 btildestar[10 , 1] = -3.91729503848112130862088264979E0
 btildestar[10 , 2] = 5.34571708286387523568944764209E1
 btildestar[10 , 3] = -1.86608519922895190223630633282E2
 btildestar[10 , 4] = 2.86590466684508956508538427101E2
 btildestar[10 , 5] = -2.06086472888247226048695898213E2
 btildestar[10 , 6] = 5.67805230270807600272234461343E1
 btildestar[11 , 0] = 0.0E0
 btildestar[11 , 1] = -1.28E0
 btildestar[11 , 2] = -1.066666666666666666666666666667E1
 btildestar[11 , 3] = 9.6E1
 btildestar[11 , 4] = -2.1376E2

btildestar[11, 5] = 1.902933333333333333333333333333E2
btildestar[11, 6] = -6.03428571428571428571428571429E1
btildestar[12, 0] = 0.0E0
btildestar[12, 1] = -1.24190736832866229599463732613E1
btildestar[12, 2] = 9.59660640526662606135219294784E1
btildestar[12, 3] = -2.71626306370950206736885539397E2
btildestar[12, 4] = 3.63106474487758471370467842604E2
btildestar[12, 5] = -2.31591808822663731002672370048E2
btildestar[12, 6] = 5.67805230270807600272234461343E1
btildestar[13, 0] = 0.0E0
btildestar[13, 1] = 3.58180476861367006733316259017E0
btildestar[13, 2] = -3.25797194793014961504558761228E1
btildestar[13, 3] = 1.11853617224220677810753432685E2
btildestar[13, 4] = -1.84931054255701895336948946564E2
btildestar[13, 5] = 1.47680002078644872324832738035E2
btildestar[13, 6] = -4.546623731279504574150916042E1
btildestar[14, 0] = 0.0E0
btildestar[14, 1] = 2.85714285714285714285714285714E-1
btildestar[14, 2] = -4.7619047619047619047619047619E-1
btildestar[14, 3] = -1.78571428571428571428571428571E0
btildestar[14, 4] = 4.0E0
btildestar[14, 5] = -2.0E0
btildestar[14, 6] = 0.0E0
btildestar[15, 0] = 0.0E0
btildestar[15, 1] = -1.48571428571428571428571428571E0
btildestar[15, 2] = 1.18095238095238095238095238095E1
btildestar[15, 3] = -3.87142857142857142857142857143E1
btildestar[15, 4] = 6.58E1
btildestar[15, 5] = -5.62666666666666666666666666667E1
btildestar[15, 6] = 1.88571428571428571428571428571E1
btildestar[16, 0] = 0.0E0
btildestar[16, 1] = 1.215E1
btildestar[16, 2] = -8.1E1
btildestar[16, 3] = 1.8225E2
btildestar[16, 4] = -1.701E2
btildestar[16, 5] = 5.67E1
btildestar[16, 6] = 0.0E0

Coefficients associated with the integrator RKT8(6)7 and the extrapolator XTR9:

c[1] = 0.0E0
c[2] = 9.333333333333333333333333333333E-2
c[3] = 1.4E-1
c[4] = 2.8E-1
c[5] = 2.8E-1
c[6] = 4.75E-1
c[7] = 4.75E-1
c[8] = 1.4E-1
c[9] = 8.0E-2
c[10] = 5.333333333333333333333333333333E-1
c[11] = 8.0E-1
c[12] = 8.8E-1
c[13] = 1.0E0
c[14] = 1.0E0
c[15] = 0.0E0
c[16] = 1.1747233803526765357449851302E-1
c[17] = 3.5738424175967745184292450298E-1
c[18] = 6.4261575824032254815707549702E-1
c[19] = 8.8252766196473234642550148698E-1
c[20] = 1.0E0
c[21] = 1.0E0

c[22] = 2.0E-1
c[23] = 8.0E-1
a[2 , 1] = 9.333333333333333333333333333333E-2
a[3 , 1] = 3.5E-2
a[3 , 2] = 1.05E-1
a[4 , 1] = 1.4E-1
a[4 , 2] = -4.2E-1
a[4 , 3] = 5.6E-1
a[5 , 1] = 4.6666666666666666666666666666667E-2
a[5 , 2] = 0.0E0
a[5 , 3] = 1.86666666666666666666666666666667E-1
a[5 , 4] = 4.66666666666666666666666666666667E-2
a[6 , 1] = 5.51743197278911564625850340136E-1
a[6 , 2] = -1.68355389030612244897959183673E0
a[6 , 3] = 1.28544855442176870748299319728E0
a[6 , 4] = -1.02147251199586977648202137998E0
a[6 , 5] = 1.3428346506013119533527696793E0
a[7 , 1] = 6.24295812074829931972789115646E-2
a[7 , 2] = 0.0E0
a[7 , 3] = 1.15615917542390090364504010559E-1
a[7 , 4] = -2.48173453254069484936831875607E-1
a[7 , 5] = 4.76004820175838192419825072886E-1
a[7 , 6] = 6.9123134328358208955223880597E-2
a[8 , 1] = 5.31754385964912280701754385965E-2
a[8 , 2] = 0.0E0
a[8 , 3] = 1.07960199004975124378109452736E-1
a[8 , 4] = -4.55448717948717948717948717949E-2
a[8 , 5] = 2.13141025641025641025641025641E-2
a[8 , 6] = 1.80954510721537509608660353975E-2
a[8 , 7] = -1.50003194428508726399201574995E-2
a[9 , 1] = 4.66308628714643752237737200143E-2
a[9 , 2] = 0.0E0
a[9 , 3] = 5.89926174413351732228314575591E-2
a[9 , 4] = -3.85681391925321394464275175145E-2
a[9 , 5] = 2.31207294594081206081229649243E-2
a[9 , 6] = 1.33009364423326992630144289062E-2
a[9 , 7] = -1.12383747568330718937876881162E-2
a[9 , 8] = -1.22386322651751569775273657731E-2
a[10 , 1] = 5.44217687074829931972789115646E-2
a[10 , 2] = 0.0E0
a[10 , 3] = 5.40333156097836021965644146011E-1
a[10 , 4] = 1.13688418211922452259942034977E-1
a[10 , 5] = 7.13352588752466984012721183007E-2
a[10 , 6] = 5.33742685221169022273976869374E-3
a[10 , 7] = 1.41741045931070379958169549861E-1
a[10 , 8] = -3.93523741342436902671713196074E-1
a[10 , 9] = 0.0E0
a[11 , 1] = -2.5940248582906658528380592843E0
a[11 , 2] = 0.0E0
a[11 , 3] = -1.77182396161676339315977974886E1
a[11 , 4] = -7.20291569558395826074056304001E0
a[11 , 5] = 1.49881506312855377166637034571E1
a[11 , 6] = 6.9187534723694667726180862128E-1
a[11 , 7] = -7.1579553906147432099663790337E0
a[11 , 8] = 2.26593581547052770034800605954E0
a[11 , 9] = 1.31756939077540917088647769884E1
a[11 , 10] = 4.35147985890989745154013147945E0
a[12 , 1] = 2.13650273135026061952015557422E0
a[12 , 2] = 0.0E0
a[12 , 3] = 1.22726517463837019805397194412E1

a[12 , 4] = 4.57653009750266308294439689668E0
a[12 , 5] = -1.02693748349496721494231277368E1
a[12 , 6] = -3.7629577005440390399992522631E-1
a[12 , 7] = 5.13017034156407434494186004831E0
a[12 , 8] = 9.62489338117485142433512784366E-2
a[12 , 9] = -1.03442766767566431388674762321E1
a[12 , 10] = -2.59772774629732852847083885323E0
a[12 , 11] = 2.55571177445599178571884809579E-1
a[13 , 1] = -1.35769285555186849895417607979E0
a[13 , 2] = 0.0E0
a[13 , 3] = -5.1848880697594401985846769119E0
a[13 , 4] = -9.44146275842569180247520769719E-1
a[13 , 5] = 5.7895230679047775815740126675E0
a[13 , 6] = -8.78331322343203825844350417574E-2
a[13 , 7] = -5.3269980917879320756691248069E0
a[13 , 8] = -3.29419214246872762413611365341E0
a[13 , 9] = 7.12498180803033672915227750424E0
a[13 , 10] = 4.23294185993291744523268528268E0
a[13 , 11] = -4.04195634685480312241204160092E-1
a[13 , 12] = 4.52499466462306516458275969143E-1
a[14 , 1] = 1.01794429109647960346134352579E-2
a[14 , 2] = 0.0E0
a[14 , 3] = 0.0E0
a[14 , 4] = 0.0E0
a[14 , 5] = 3.42368385444252768240392979897E-1
a[14 , 6] = 0.0E0
a[14 , 7] = -2.93579170210195254952533184107E-1
a[14 , 8] = -9.95353542504925310796528261447E-2
a[14 , 9] = 2.07437934572206346408597479637E-1
a[14 , 10] = 5.43021201240774613165496369804E-1
a[14 , 11] = 1.07235531414217311653209089107E-1
a[14 , 12] = 1.44540738194287577003626386342E-1
a[14 , 13] = 3.8331290683984373526250270207E-2
a[15 , 1] = 0.0E0
a[15 , 2] = 0.0E0
a[15 , 3] = 0.0E0
a[15 , 4] = 0.0E0
a[15 , 5] = 0.0E0
a[15 , 6] = 0.0E0
a[15 , 7] = 0.0E0
a[15 , 8] = 0.0E0
a[15 , 9] = 0.0E0
a[15 , 10] = 0.0E0
a[15 , 11] = 0.0E0
a[15 , 12] = 0.0E0
a[15 , 13] = 0.0E0
a[15 , 14] = 0.0E0
a[16 , 1] = -9.86148857823998222464170819978E-2
a[16 , 2] = 0.0E0
a[16 , 3] = 0.0E0
a[16 , 4] = 0.0E0
a[16 , 5] = 3.31156425006852907641720717613E-2
a[16 , 6] = 0.0E0
a[16 , 7] = -3.14149364927198835509967142212E-2
a[16 , 8] = -6.66566929873556397834392188918E-2
a[16 , 9] = 1.43872647789276840797610242132E-1
a[16 , 10] = 2.00351564894332233917386959681E-2
a[16 , 11] = 7.59258264970427356345577875253E-4
a[16 , 12] = -1.4590133851959194619169786812E-3
a[16 , 13] = -3.21942332241823646270778455656E-3

a[16 , 14] = 3.58224692572371919561119061207E-3
a[16 , 15] = 1.1747233803526765357449851302E-1
a[17 , 1] = 6.27200987584221996648187065042E-2
a[17 , 2] = 0.0E0
a[17 , 3] = 0.0E0
a[17 , 4] = 0.0E0
a[17 , 5] = 9.85966156819497402129908819491E-2
a[17 , 6] = 0.0E0
a[17 , 7] = 7.97238517379025973666688825006E-2
a[17 , 8] = -5.4606508570010726123462644885E-2
a[17 , 9] = -1.36610903801059192389455816473E-1
a[17 , 10] = -5.10883384848014970210924617676E-2
a[17 , 11] = -9.1426459854649839958626010637E-4
a[17 , 12] = 3.01630572147642673453107094215E-3
a[17 , 13] = 7.57602115074149432894618084824E-3
a[17 , 14] = -8.4187353090841978854749199087E-3
a[17 , 15] = -9.7295908992010711738923404735E-3
a[17 , 16] = 3.67113832658878523016816843453E-1
a[18 , 1] = -5.66400160858702442424082710682E-1
a[18 , 2] = 0.0E0
a[18 , 3] = 0.0E0
a[18 , 4] = 0.0E0
a[18 , 5] = 1.64977244596540416228535218729E-1
a[18 , 6] = 0.0E0
a[18 , 7] = -2.53033892819573453782972182614E-1
a[18 , 8] = 8.58038657899146015232020811669E-3
a[18 , 9] = 2.7898843456922858079116247705E-1
a[18 , 10] = 3.63028404452755493382852599172E-1
a[18 , 11] = 1.05766698425228330918950757707E-2
a[18 , 12] = -8.28142572112766112288302098882E-3
a[18 , 13] = -1.42632078172196968242682102439E-2
a[18 , 14] = 1.58275471765844705074405456908E-2
a[18 , 15] = 5.64042839631742261713183376159E-1
a[18 , 16] = -1.35552905046286335389561470838E-1
a[18 , 17] = 2.14125823654866621833453591699E-1
a[19 , 1] = 2.46718366024544731242973482657E0
a[19 , 2] = 0.0E0
a[19 , 3] = 0.0E0
a[19 , 4] = 0.0E0
a[19 , 5] = -1.6690559285397639896753885098E0
a[19 , 6] = 0.0E0
a[19 , 7] = 6.34078791216618923151641442732E-1
a[19 , 8] = 8.69487872915986039158651969785E-1
a[19 , 9] = -1.16521020635487700660548770027E0
a[19 , 10] = -1.19140026761349671907574050544E0
a[19 , 11] = -1.22607620961387358784923796172E-2
a[19 , 12] = 6.85700785541583327295278440118E-2
a[19 , 13] = 3.89413472290529702896223233409E-2
a[19 , 14] = -4.03345855569871265240693113177E-2
a[19 , 15] = -2.28076430756086587620959965705E0
a[19 , 16] = 9.16740280730361466109882433051E-1
a[19 , 17] = 1.53567602208459446030953046878E0
a[19 , 18] = 7.10875666710642296215688242196E-1
a[20 , 1] = -9.25459292401878606578002732033E0
a[20 , 2] = 0.0E0
a[20 , 3] = 0.0E0
a[20 , 4] = 0.0E0
a[20 , 5] = 7.09374395882139761640827623203E0
a[20 , 6] = 0.0E0
a[20 , 7] = -1.9789597194058549994739425286E0

a[20 , 8] = -4.17475149884995101728250945789E0
a[20 , 9] = 4.61326983292678146213439485549E0
a[20 , 10] = 4.0537470075927164930069497638E0
a[20 , 11] = -1.51235299810640465330137479295E-2
a[20 , 12] = -3.37176922785321684716537039285E-1
a[20 , 13] = -1.47141180731147348261056266036E-1
a[20 , 14] = 1.46984976431229590497465508753E-1
a[20 , 15] = 8.66779726097017661735842857451E0
a[20 , 16] = -2.12148209808166529077213556684E0
a[20 , 17] = -5.15195528498985891597375527107E0
a[20 , 18] = -1.06126494796020990245306401228E0
a[20 , 19] = 6.66905070061557491840526275683E-1
a[21 , 1] = 0.0E0
a[21 , 2] = 0.0E0
a[21 , 3] = 0.0E0
a[21 , 4] = 0.0E0
a[21 , 5] = 0.0E0
a[21 , 6] = 0.0E0
a[21 , 7] = 0.0E0
a[21 , 8] = 0.0E0
a[21 , 9] = 0.0E0
a[21 , 10] = 0.0E0
a[21 , 11] = 0.0E0
a[21 , 12] = 0.0E0
a[21 , 13] = 0.0E0
a[21 , 14] = 0.0E0
a[21 , 15] = 3.333333333333333333333333333333E-2
a[21 , 16] = 1.89237478148923490158306404106E-1
a[21 , 17] = 2.77429188517743176508360262561E-1
a[21 , 18] = 2.77429188517743176508360262561E-1
a[21 , 19] = 1.89237478148923490158306404106E-1
a[21 , 20] = 3.333333333333333333333333333333E-2
a[22 , 1] = -4.3436995539238241096927065406E-3
a[22 , 2] = 0.0E0
a[22 , 3] = 0.0E0
a[22 , 4] = 0.0E0
a[22 , 5] = 5.72198492739106049271892732079E-3
a[22 , 6] = 0.0E0
a[22 , 7] = 3.43881693455099327121944564815E-3
a[22 , 8] = -2.02848447867291061587100898709E-2
a[22 , 9] = 1.93259013829436165432437704791E-2
a[22 , 10] = -4.31414054464214785021665024101E-3
a[22 , 11] = 1.70221429515131781488559317055E-4
a[22 , 12] = 5.2375051198779837267780501328E-4
a[22 , 13] = 2.88632236315199468313867425586E-4
a[22 , 14] = -5.26622537408721811042928551476E-4
a[22 , 15] = 3.8282666666666666666666666666667E-2
a[22 , 16] = 1.57252426810981389176710345964E-1
a[22 , 17] = 4.63178194088227180304060334021E-3
a[22 , 18] = -1.18650188911251765217864769793E-5
a[22 , 19] = -2.93677066305869136562496160759E-4
a[22 , 20] = 0.0E0
a[22 , 21] = 1.3866666666666666666666666666667E-4
a[23 , 1] = 0.0E0
a[23 , 2] = 0.0E0
a[23 , 3] = 0.0E0
a[23 , 4] = 0.0E0
a[23 , 5] = 0.0E0
a[23 , 6] = 0.0E0
a[23 , 7] = 0.0E0

a[23 , 8] = 0.0E0
a[23 , 9] = 0.0E0
a[23 , 10] = 0.0E0
a[23 , 11] = 0.0E0
a[23 , 12] = 0.0E0
a[23 , 13] = 0.0E0
a[23 , 14] = 0.0E0
a[23 , 15] = 3.47306666666666666666666666667E-2
a[23 , 16] = 1.80661926119170015853725411732E-1
a[23 , 17] = 2.71809909080991610054654219671E-1
a[23 , 18] = 2.74799715315062983634196406488E-1
a[23 , 19] = 3.09126307145488532405954831447E-2
a[23 , 20] = 0.0E0
a[23 , 21] = -4.56533333333333333333333333333E-3
a[23 , 22] = 1.16504854368932038834951456311E-2
bcap[1] = 1.01794429109647960346134352579E-2
bcap[2] = 0.0E0
bcap[3] = 0.0E0
bcap[4] = 0.0E0
bcap[5] = 3.42368385444252768240392979897E-1
bcap[6] = 0.0E0
bcap[7] = -2.93579170210195254952533184107E-1
bcap[8] = -9.95353542504925310796528261447E-2
bcap[9] = 2.07437934572206346408597479637E-1
bcap[10] = 5.43021201240774613165496369804E-1
bcap[11] = 1.07235531414217311653209089107E-1
bcap[12] = 1.44540738194287577003626386342E-1
bcap[13] = 3.8331290683984373526250270207E-2
bcap[14] = 0.0E0
b[1] = -5.91293258004837089685158123242E-2
b[2] = 0.0E0
b[3] = 0.0E0
b[4] = 0.0E0
b[5] = -1.14901053624678659268733720599E0
b[6] = 0.0E0
b[7] = 3.77974861322618360761792589719E0
b[8] = 7.48570483449616205367366755746E-1
b[9] = 1.74577267785426015996335159381E-2
b[10] = -3.00845790812659142174173541204E0
b[11] = 9.70820946719519308812662261486E-1
b[12] = -4.0E-1
b[13] = 1.0E-1
b[14] = 0.0E0
bstar[1 , 0] = 1.0E0
bstar[1 , 1] = -1.41239093743887554093438640359E1
bstar[1 , 2] = 8.4016766195696458031461586846E1
bstar[1 , 3] = -2.51083997467010984848468599308E2
bstar[1 , 4] = 3.86512292414528095658571249453E2
bstar[1 , 5] = -2.91148854238488538278621434142E2
bstar[1 , 6] = 8.48378819125746896424356746212E1
bstar[2 , 0] = 0.0E0
bstar[2 , 1] = 0.0E0
bstar[2 , 2] = 0.0E0
bstar[2 , 3] = 0.0E0
bstar[2 , 4] = 0.0E0
bstar[2 , 5] = 0.0E0
bstar[2 , 6] = 0.0E0
bstar[3 , 0] = 0.0E0
bstar[3 , 1] = 0.0E0
bstar[3 , 2] = 0.0E0

bstar[3 , 3] = 0.0E0
bstar[3 , 4] = 0.0E0
bstar[3 , 5] = 0.0E0
bstar[3 , 6] = 0.0E0
bstar[4 , 0] = 0.0E0
bstar[4 , 1] = 0.0E0
bstar[4 , 2] = 0.0E0
bstar[4 , 3] = 0.0E0
bstar[4 , 4] = 0.0E0
bstar[4 , 5] = 0.0E0
bstar[4 , 6] = 0.0E0
bstar[5 , 0] = 0.0E0
bstar[5 , 1] = 5.10665844292158893795819184009E0
bstar[5 , 2] = -4.00124279090280806878089311459E1
bstar[5 , 3] = 1.84440467426588995836723836551E2
bstar[5 , 4] = -3.78973592698221239000827838379E2
bstar[5 , 5] = 3.41538781236289637930611683348E2
bstar[5 , 6] = -1.11757518113106650248416549234E2
bstar[6 , 0] = 0.0E0
bstar[6 , 1] = 0.0E0
bstar[6 , 2] = 0.0E0
bstar[6 , 3] = 0.0E0
bstar[6 , 4] = 0.0E0
bstar[6 , 5] = 0.0E0
bstar[6 , 6] = 0.0E0
bstar[7 , 0] = 0.0E0
bstar[7 , 1] = -2.0751485626953971018794503634E0
bstar[7 , 2] = -9.92180312887292232371883540967E0
bstar[7 , 3] = 9.25598164917894535323732388042E1
bstar[7 , 4] = -2.15979497620388810544292166846E2
bstar[7 , 5] = 2.02287446902906568511069478446E2
bstar[7 , 6] = -6.71643932529490873285047978155E1
bstar[8 , 0] = 0.0E0
bstar[8 , 1] = -2.14183863541985721594046947605E1
bstar[8 , 2] = 2.2543825665248598292363025894E2
bstar[8 , 3] = -8.84829314979143198157611115581E2
bstar[8 , 4] = 1.57460856803292263565777875922E3
bstar[8 , 5] = -1.29008703344712019545777930343E3
bstar[8 , 6] = 3.96188374740802854662306442791E2
bstar[9 , 0] = 0.0E0
bstar[9 , 1] = 3.15180535325053411373578467654E1
bstar[9 , 2] = -2.71413850918964647969857885217E2
bstar[9 , 3] = 9.52348654179583905315594876659E2
bstar[9 , 4] = -1.59274235351047950380282579202E3
bstar[9 , 5] = 1.25795594603754462227636944346E3
bstar[9 , 6] = -3.7745901138561751061022989217E2
bstar[10 , 0] = 0.0E0
bstar[10 , 1] = 9.65701535222266902447206365602E-1
bstar[10 , 2] = 1.29274299904241623819239369537E1
bstar[10 , 3] = -1.00480323438077279181257364968E2
bstar[10 , 4] = 2.45834235483979601485491021852E2
bstar[10 , 5] = -2.42964579882849927174983253853E2
bstar[10 , 6] = 8.42605575125419501995439500197E1
bstar[11 , 0] = 0.0E0
bstar[11 , 1] = 8.35557991425411575752552757343E-2
bstar[11 , 2] = -3.81989088470777655385269085515E-1
bstar[11 , 3] = 1.70967961712293483156233961215E0
bstar[11 , 4] = -5.28883927213581506454906269727E0
bstar[11 , 5] = 7.30946577097275164964837014524E0
bstar[11 , 6] = -3.32463729521741760719842416123E0

bstar[12 , 0] = 0.0E0
bstar[12 , 1] = -6.33380888284421342020961449909E-2
bstar[12 , 2] = -1.09526815610176510133599623253E0
bstar[12 , 3] = 8.61906649612399098614496017804E0
bstar[12 , 4] = -2.30612339267248796358151679261E1
bstar[12 , 5] = 2.59748166009870704285753056776E1
bstar[12 , 6] = -1.02295021872616869663633791656E1
bstar[13 , 0] = 0.0E0
bstar[13 , 1] = -2.84608939125612693786991431373E-1
bstar[13 , 2] = 4.29888914910786433803628796472E-3
bstar[13 , 3] = 5.20337256488446600050553460014E0
bstar[13 , 4] = -1.46885666621411381932249338734E1
bstar[13 , 5] = 1.54411838034484010111998278429E1
bstar[13 , 6] = -5.63734836553123961550522315598E0
bstar[14 , 0] = 0.0E0
bstar[14 , 1] = 2.91422009445041363278596489354E-1
bstar[14 , 2] = 4.38587473682482536753098062593E-1
bstar[14 , 3] = -8.48742089186228431556770654766E0
bstar[14 , 4] = 2.37789877586610534396939312211E1
bstar[14 , 5] = -2.63071727836903908960901174964E1
bstar[14 , 6] = 1.0285596433764097871932198271E1
btilde[1] = 0.0E0
btilde[2] = 0.0E0
btilde[3] = 0.0E0
btilde[4] = 0.0E0
btilde[5] = 0.0E0
btilde[6] = 0.0E0
btilde[7] = 0.0E0
btilde[8] = 0.0E0
btilde[9] = 0.0E0
btilde[10] = 0.0E0
btilde[11] = 0.0E0
btilde[12] = 0.0E0
btilde[13] = 0.0E0
btilde[14] = 0.0E0
btilde[15] = 3.3333333333333333333333333333333333E-2
btilde[16] = 1.89237478148923490158306404106E-1
btilde[17] = 2.77429188517743176508360262561E-1
btilde[18] = 2.77429188517743176508360262561E-1
btilde[19] = 1.89237478148923490158306404106E-1
btilde[20] = 3.3333333333333333333333333333333333E-2
btilde[21] = 0.0E0
btilde[22] = 0.0E0
btilde[23] = 0.0E0
btildestar[1 , 0] = 0.0E0
btildestar[1 , 1] = 0.0E0
btildestar[1 , 2] = 0.0E0
btildestar[1 , 3] = 0.0E0
btildestar[1 , 4] = 0.0E0
btildestar[1 , 5] = 0.0E0
btildestar[1 , 6] = 0.0E0
btildestar[1 , 7] = 0.0E0
btildestar[2 , 0] = 0.0E0
btildestar[2 , 1] = 0.0E0
btildestar[2 , 2] = 0.0E0
btildestar[2 , 3] = 0.0E0
btildestar[2 , 4] = 0.0E0
btildestar[2 , 5] = 0.0E0
btildestar[2 , 6] = 0.0E0
btildestar[2 , 7] = 0.0E0

btildestar[3 , 0] = 0.0E0
btildestar[3 , 1] = 0.0E0
btildestar[3 , 2] = 0.0E0
btildestar[3 , 3] = 0.0E0
btildestar[3 , 4] = 0.0E0
btildestar[3 , 5] = 0.0E0
btildestar[3 , 6] = 0.0E0
btildestar[3 , 7] = 0.0E0
btildestar[4 , 0] = 0.0E0
btildestar[4 , 1] = 0.0E0
btildestar[4 , 2] = 0.0E0
btildestar[4 , 3] = 0.0E0
btildestar[4 , 4] = 0.0E0
btildestar[4 , 5] = 0.0E0
btildestar[4 , 6] = 0.0E0
btildestar[4 , 7] = 0.0E0
btildestar[5 , 0] = 0.0E0
btildestar[5 , 1] = 0.0E0
btildestar[5 , 2] = 0.0E0
btildestar[5 , 3] = 0.0E0
btildestar[5 , 4] = 0.0E0
btildestar[5 , 5] = 0.0E0
btildestar[5 , 6] = 0.0E0
btildestar[5 , 7] = 0.0E0
btildestar[6 , 0] = 0.0E0
btildestar[6 , 1] = 0.0E0
btildestar[6 , 2] = 0.0E0
btildestar[6 , 3] = 0.0E0
btildestar[6 , 4] = 0.0E0
btildestar[6 , 5] = 0.0E0
btildestar[6 , 6] = 0.0E0
btildestar[6 , 7] = 0.0E0
btildestar[7 , 0] = 0.0E0
btildestar[7 , 1] = 0.0E0
btildestar[7 , 2] = 0.0E0
btildestar[7 , 3] = 0.0E0
btildestar[7 , 4] = 0.0E0
btildestar[7 , 5] = 0.0E0
btildestar[7 , 6] = 0.0E0
btildestar[7 , 7] = 0.0E0
btildestar[8 , 0] = 0.0E0
btildestar[8 , 1] = 0.0E0
btildestar[8 , 2] = 0.0E0
btildestar[8 , 3] = 0.0E0
btildestar[8 , 4] = 0.0E0
btildestar[8 , 5] = 0.0E0
btildestar[8 , 6] = 0.0E0
btildestar[8 , 7] = 0.0E0
btildestar[9 , 0] = 0.0E0
btildestar[9 , 1] = 0.0E0
btildestar[9 , 2] = 0.0E0
btildestar[9 , 3] = 0.0E0
btildestar[9 , 4] = 0.0E0
btildestar[9 , 5] = 0.0E0
btildestar[9 , 6] = 0.0E0
btildestar[9 , 7] = 0.0E0
btildestar[10 , 0] = 0.0E0
btildestar[10 , 1] = 0.0E0
btildestar[10 , 2] = 0.0E0
btildestar[10 , 3] = 0.0E0

btildestar[10, 4] = 0.0E0
btildestar[10, 5] = 0.0E0
btildestar[10, 6] = 0.0E0
btildestar[10, 7] = 0.0E0
btildestar[11, 0] = 0.0E0
btildestar[11, 1] = 0.0E0
btildestar[11, 2] = 0.0E0
btildestar[11, 3] = 0.0E0
btildestar[11, 4] = 0.0E0
btildestar[11, 5] = 0.0E0
btildestar[11, 6] = 0.0E0
btildestar[11, 7] = 0.0E0
btildestar[12, 0] = 0.0E0
btildestar[12, 1] = 0.0E0
btildestar[12, 2] = 0.0E0
btildestar[12, 3] = 0.0E0
btildestar[12, 4] = 0.0E0
btildestar[12, 5] = 0.0E0
btildestar[12, 6] = 0.0E0
btildestar[12, 7] = 0.0E0
btildestar[13, 0] = 0.0E0
btildestar[13, 1] = 0.0E0
btildestar[13, 2] = 0.0E0
btildestar[13, 3] = 0.0E0
btildestar[13, 4] = 0.0E0
btildestar[13, 5] = 0.0E0
btildestar[13, 6] = 0.0E0
btildestar[13, 7] = 0.0E0
btildestar[14, 0] = 0.0E0
btildestar[14, 1] = 0.0E0
btildestar[14, 2] = 0.0E0
btildestar[14, 3] = 0.0E0
btildestar[14, 4] = 0.0E0
btildestar[14, 5] = 0.0E0
btildestar[14, 6] = 0.0E0
btildestar[14, 7] = 0.0E0
btildestar[15, 0] = 1.0E0
btildestar[15, 1] = -1.0625E1
btildestar[15, 2] = 5.66666666666666666666666666667E1
btildestar[15, 3] = -1.678125E2
btildestar[15, 4] = 2.877E2
btildestar[15, 5] = -2.84083333333333333333333333333E2
btildestar[15, 6] = 1.5E2
btildestar[15, 7] = -3.28125E1
btildestar[16, 0] = 0.0E0
btildestar[16, 1] = 2.88070494871248591801766837534E1
btildestar[16, 2] = -2.44617128058843404824036511954E2
btildestar[16, 3] = 8.86845613069851134441850907061E2
btildestar[16, 4] = -1.69517316657277289908110561205E3
btildestar[16, 5] = 1.78764448532701705172634468518E3
btildestar[16, 6] = -9.85394680018460687016387253975E2
btildestar[16, 7] = 2.22077064244232869063315408386E2
btildestar[17, 0] = 0.0E0
btildestar[17, 1] = 9.27050031691950304170250300105E0
btildestar[17, 2] = -1.14038842003953612966998951174E2
btildestar[17, 3] = 5.48672709472677123046968282563E2
btildestar[17, 4] = -1.26093257572568124574465573849E3
btildestar[17, 5] = 1.50501609771041491225961069847E3
btildestar[17, 6] = -9.05134664508101587476280691782E2
btildestar[17, 7] = 2.17424203926242651016162257665E2

btildestar[18, 0] = 0.0E0
btildestar[18, 1] = -5.15569480519352032076712432122E0
btildestar[18, 2] = 6.76903549242735622017929805834E1
btildestar[18, 3] = -3.59232313553924587679383891428E2
btildestar[18, 4] = 9.37091475736263347716200354172E2
btildestar[18, 5] = -1.25695115608849802837818907062E3
btildestar[18, 6] = 8.34258966901839620653017369536E2
btildestar[18, 7] = -2.17424203926242651016162257665E2
btildestar[19, 0] = 0.0E0
btildestar[19, 1] = -3.83447635807414287198584884096E0
btildestar[19, 2] = 5.14251620640897986313136799557E1
btildestar[19, 3] = -2.82227756561419203790017822468E2
btildestar[19, 4] = 7.73721062678695651478493035199E2
btildestar[19, 5] = -1.10803952403631257638446534217E3
btildestar[19, 6] = 7.91221833935402265490136013113E2
btildestar[19, 7] = -2.22077064244232869063315408386E2
btildestar[20, 0] = 0.0E0
btildestar[20, 1] = 5.0E-1
btildestar[20, 2] = -6.75E0
btildestar[20, 3] = 3.74375E1
btildestar[20, 4] = -1.043E2
btildestar[20, 5] = 1.52833333333333333333333333333333E2
btildestar[20, 6] = -1.125E2
btildestar[20, 7] = 3.28125E1
btildestar[21, 0] = 0.0E0
btildestar[21, 1] = 0.0E0
btildestar[21, 2] = 0.0E0
btildestar[21, 3] = 0.0E0
btildestar[21, 4] = 0.0E0
btildestar[21, 5] = 0.0E0
btildestar[21, 6] = 0.0E0
btildestar[21, 7] = 0.0E0
btildestar[22, 0] = 0.0E0
btildestar[22, 1] = -2.5283171521035598705501618123E1
btildestar[22, 2] = 2.73901024811218985976267529666E2
btildestar[22, 3] = -1.12194073624595469255663430421E3
btildestar[22, 4] = 2.30076860841423948220064724919E3
btildestar[22, 5] = -2.53674487594390507011866235167E3
btildestar[22, 6] = 1.44114077669902912621359223301E3
btildestar[22, 7] = -3.31841626213592233009708737864E2
btildestar[23, 0] = 0.0E0
btildestar[23, 1] = 6.32079288025889967637540453074E0
btildestar[23, 2] = -8.42772384034519956850053937433E1
btildestar[23, 3] = 4.58257483818770226537216828479E2
btildestar[23, 4] = -1.23887540453074433656957928803E3
btildestar[23, 5] = 1.7403249730312837108953613808E3
btildestar[23, 6] = -1.2135922330097087378640776699E3
btildestar[23, 7] = 3.31841626213592233009708737864E2