

Printed: Wednesday, September 23, 2009 12:33:58

Date and time of run 23-SEP-2009 11:37:23

```
> 20090923113707 MTDATA 4.81 2007-12-06, LOG /obelix/users/ashwin/mt_data_ash/mt5.log
> 20090923113707 U-32986 on LNX-000-* (UNIX) using sgm000.exe
> 20090923113723 MODULE 3      creates MPI file /obelix/users/ashwin/mt_data_ash/def.mpi
> 20090923113723 MODULE 3      reads MPI file /obelix/users/ashwin/mt_data_ash/def.mpi
> 20090923113723 MODULE 3      creates MPR file /obelix/users/ashwin/mt_data_ash/def.mpr
$(Number of lines of title)  8
* DATAFILE = /obelix/users/ashwin/mt_data_ash/def.mpi -   CREATED 11:37:23 23-SEP-2009
* SYSTEM = Fe,Cr,Mn,C,
* NUMBER OF PHASES =    18
* NUMBER OF SPECIES =    68
*
```

DATA FILE = /obelix/users/ashwin/mt_data_ash/def.mpi

*** PROBLEM settings ***

SYSTEM ELEMENTS : CCrFeMn

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
1	Fe	# TO BAL	1534.60		
2	Cr	NORMAL	263.481		
3	Mn	NORMAL	7.28093		
4	C	NORMAL	16.6518		

NUMBER	PHASE	STATUS	MODEL
1	DIAMOND_FCC_A4	absent	PURE SUBSTANCE
2	GRAPHITE	absent	PURE SUBSTANCE
3	LIQUID	absent	REDLICH-KISTER
4	BCC_A2	absent	SUBLATTICE
5	CEMENTITE	absent	SUBLATTICE
6	FCC_A1	1 M-G	SUBLATTICE
7	FE4N	absent	SUBLATTICE
8	HCP_A3	absent	SUBLATTICE
9	KSI_CARBIDE	absent	SUBLATTICE
10	M3C2	absent	PURE SUBSTANCE
11	M7C3	absent	SUBLATTICE
12	M23C6	NORMAL	SUBLATTICE
13	FECN_CHI	absent	PURE SUBSTANCE
14	M5C2	absent	SUBLATTICE
15	CR3SI	absent	SUBLATTICE
16	LAVES_PHASE_C14	absent	SUBLATTICE
17	CHI_A12	absent	SUBLATTICE
18	SIGMA	absent	SUBLATTICE

NUMBER	SUBSTANCE	STATUS/CONSTRAINT
1	C<DIAMOND_FCC_A4>	NORMAL
2	C<GRAPHITE>	NORMAL
3	C<LIQUID>	NORMAL
4	Cr<LIQUID>	NORMAL
5	Fe<LIQUID>	NORMAL
6	Mn<LIQUID>	NORMAL
7	Cr:1<BCC_A2>	NORMAL
8	Fe:1<BCC_A2>	NORMAL
9	Mn:1<BCC_A2>	NORMAL
10	C:2<BCC_A2>	NORMAL

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11	Va:2<BCC_A2>	NORMAL
12	Cr:1<CEMENTITE>	NORMAL
13	Fe:1<CEMENTITE>	NORMAL
14	Mn:1<CEMENTITE>	NORMAL
15	C:2<CEMENTITE>	NORMAL
16	Cr:1<FCC_A1>	NORMAL
17	Fe:1<FCC_A1>	NORMAL
18	Mn:1<FCC_A1>	NORMAL
19	C:2<FCC_A1>	NORMAL
20	Va:2<FCC_A1>	NORMAL
21	Cr:1<FE4N>	NORMAL
22	Fe:1<FE4N>	NORMAL
23	Mn:1<FE4N>	NORMAL
24	C:2<FE4N>	NORMAL
25	Cr:1<HCP_A3>	NORMAL
26	Fe:1<HCP_A3>	NORMAL
27	Mn:1<HCP_A3>	NORMAL
28	C:2<HCP_A3>	NORMAL
29	Va:2<HCP_A3>	NORMAL
30	Cr:1<KSI_CARBIDE>	NORMAL
31	Fe:1<KSI_CARBIDE>	NORMAL
32	C:2<KSI_CARBIDE>	NORMAL
33	Cr3C2<M3C2>	NORMAL
34	Cr:1<M7C3>	NORMAL
35	Fe:1<M7C3>	NORMAL
36	Mn:1<M7C3>	NORMAL
37	C:2<M7C3>	NORMAL
38	Cr:1<M23C6>	NORMAL
39	Fe:1<M23C6>	NORMAL
40	Mn:1<M23C6>	NORMAL
41	Cr:2<M23C6>	NORMAL
42	Fe:2<M23C6>	NORMAL
43	Mn:2<M23C6>	NORMAL
44	C:3<M23C6>	NORMAL
45	Fe2.2C<FECN_CHI>	NORMAL
46	Fe:1<M5C2>	NORMAL
47	Mn:1<M5C2>	NORMAL
48	C:2<M5C2>	NORMAL
49	Cr:1<CR3SI>	NORMAL
50	Fe:1<CR3SI>	NORMAL
51	Cr:2<CR3SI>	NORMAL
52	Cr:1<LAVES_PHASE_C14>	NORMAL
53	Fe:1<LAVES_PHASE_C14>	NORMAL
54	Mn:1<LAVES_PHASE_C14>	NORMAL
55	Cr:2<LAVES_PHASE_C14>	NORMAL
56	Fe:2<LAVES_PHASE_C14>	NORMAL
57	Mn:2<LAVES_PHASE_C14>	NORMAL
58	Cr:1<CHI_A12>	NORMAL
59	Fe:1<CHI_A12>	NORMAL
60	Cr:2<CHI_A12>	NORMAL
61	Cr:3<CHI_A12>	NORMAL
62	Fe:3<CHI_A12>	NORMAL
63	Fe:1<SIGMA>	NORMAL
64	Mn:1<SIGMA>	NORMAL
65	Cr:2<SIGMA>	NORMAL
66	Cr:3<SIGMA>	NORMAL
67	Fe:3<SIGMA>	NORMAL
68	Mn:3<SIGMA>	NORMAL

UNARY

SOURCE

Tmin/K

Tmax/K

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C<DIAMOND_FCC_A4>	tcfe	298.15	6000.00
C<GRAPHITE>	tcfe	298.15	6000.00
C<LIQUID>	tcfe	298.15	6000.00
Cr<LIQUID>	tcfe	298.15	6000.00
Fe<LIQUID>	tcfe	298.15	6000.00
Mn<LIQUID>	tcfe	298.15	2000.00
Cr:C<BCC_A2:1:3>	tcfe	298.15	6000.00
Cr:Va<BCC_A2:1:3>	tcfe	298.15	6000.00
Fe:C<BCC_A2:1:3>	tcfe	298.15	6000.00
Fe:Va<BCC_A2:1:3>	tcfe	298.15	6000.00
Mn:C<BCC_A2:1:3>	tcfe	298.15	2000.00
Mn:Va<BCC_A2:1:3>	tcfe	298.15	2000.00
Cr:C<CEMENTITE:3:1>	tcfe	298.15	6000.00
Fe:C<CEMENTITE:3:1>	tcfe	298.15	6000.00
Mn:C<CEMENTITE:3:1>	tcfe	298.15	2000.00
Cr:C<FCC_A1:1:1>	tcfe	298.15	6000.00
Cr:Va<FCC_A1:1:1>	tcfe	298.15	6000.00
Fe:C<FCC_A1:1:1>	tcfe	298.15	6000.00
Fe:Va<FCC_A1:1:1>	tcfe	298.15	6000.00
Mn:C<FCC_A1:1:1>	tcfe	298.15	2000.00
Mn:Va<FCC_A1:1:1>	tcfe	298.15	2000.00
Cr:C<FE4N:4:1>	tcfe	298.15	300.00
Fe:C<FE4N:4:1>	tcfe	298.15	6000.00
Mn:C<FE4N:4:1>	tcfe	298.15	300.00
Cr:C<HCP_A3:1:0.5>	tcfe	298.15	6000.00
Cr:Va<HCP_A3:1:0.5>	tcfe	298.15	6000.00
Fe:C<HCP_A3:1:0.5>	tcfe	298.15	6000.00
Fe:Va<HCP_A3:1:0.5>	tcfe	298.15	6000.00
Mn:C<HCP_A3:1:0.5>	tcfe	298.15	2000.00
Mn:Va<HCP_A3:1:0.5>	tcfe	298.15	2000.00
Cr:C<KSI_CARBIIDE:3:1>	tcfe	298.15	6000.00
Fe:C<KSI_CARBIIDE:3:1>	tcfe	298.15	6000.00
Cr3C2<M3C2>	tcfe	298.15	6000.00
Cr:C<M7C3:7:3>	tcfe	298.15	6000.00
Fe:C<M7C3:7:3>	tcfe	298.15	6000.00
Mn:C<M7C3:7:3>	tcfe	298.15	2000.00
Cr:Cr:C<M23C6:20:3:6>	tcfe	298.15	6000.00
Cr:Fe:C<M23C6:20:3:6>	tcfe	298.15	6000.00
Cr:Mn:C<M23C6:20:3:6>	tcfe	298.15	2000.00
Fe:Cr:C<M23C6:20:3:6>	tcfe	298.15	6000.00
Fe:Fe:C<M23C6:20:3:6>	tcfe	298.15	6000.00
Fe:Mn:C<M23C6:20:3:6>	tcfe	298.15	2000.00
Mn:Cr:C<M23C6:20:3:6>	tcfe	298.15	2000.00
Mn:Fe:C<M23C6:20:3:6>	tcfe	298.15	2000.00
Mn:Mn:C<M23C6:20:3:6>	tcfe	298.15	2000.00
Fe2.2C<FECN_CHI>	tcfe	298.15	6000.00
Fe:C<M5C2:5:2>	tcfe	298.15	6000.00
Mn:C<M5C2:5:2>	tcfe	298.15	2000.00
Cr:Cr<CR3SI:3:1>	tcfe	298.15	6000.00
Fe:Cr<CR3SI:3:1>	tcfe	298.15	6000.00
Cr:Cr<LAVES_PHASE_C14:2:1>	tcfe	298.15	6000.00
Cr:Fe<LAVES_PHASE_C14:2:1>	tcfe	298.15	6000.00
Cr:Mn<LAVES_PHASE_C14:2:1>	tcfe	298.15	6000.00
Fe:Cr<LAVES_PHASE_C14:2:1>	tcfe	298.15	6000.00
Fe:Fe<LAVES_PHASE_C14:2:1>	tcfe	298.15	6000.00
Fe:Mn<LAVES_PHASE_C14:2:1>	tcfe	298.15	6000.00
Mn:Cr<LAVES_PHASE_C14:2:1>	tcfe	298.15	6000.00
Mn:Fe<LAVES_PHASE_C14:2:1>	tcfe	298.15	6000.00
Mn:Mn<LAVES_PHASE_C14:2:1>	tcfe	298.15	2000.00
Cr:Cr:Cr<CHI_A12:24:10:24>	tcfe	298.15	6000.00
Cr:Cr:Fe<CHI_A12:24:10:24>	tcfe	298.15	6000.00

Fe:Cr:Cr<CHI_A12:24:10:24>	tcfe	298.15	6000.00
Fe:Cr:Fe<CHI_A12:24:10:24>	tcfe	298.15	6000.00
Fe:Cr:Cr<SIGMA:8:4:18>	tcfe	298.15	6000.00
Fe:Cr:Fe<SIGMA:8:4:18>	tcfe	298.15	6000.00
Fe:Cr:Mn<SIGMA:8:4:18>	tcfe	298.15	2000.00
Mn:Cr:Cr<SIGMA:8:4:18>	tcfe	298.15	2000.00
Mn:Cr:Fe<SIGMA:8:4:18>	tcfe	298.15	2000.00
Mn:Cr:Mn<SIGMA:8:4:18>	tcfe	298.15	2000.00

TEMPERATURE	:	773.0000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE

TEMPERATURE	773.000	to	1773.00	by	20.0000
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Stage 1* only requested

*** MULTIPHASE - Stage 1* Results ***

Temperature = 773.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-2.766078E+04	1.351760E-02	1.534605E+03	8.570000E+01
Cr		-2.776659E+04	1.329689E-02	2.634813E+02	1.370000E+01
Mn		-7.219414E+04	1.323373E-05	7.280928E+00	4.000000E-01
C		-6.181978E+04	6.648146E-05	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.645940E+01	FCC_A1	0.8845687	0.1115920	0.0038358
3.540604E+00	M23C6	0.1059244	0.8292088	0.0084734
		C		
9.645940E+01	FCC_A1	0.0000035		
3.540604E+00	M23C6	0.0563934		

Gibbs Energy = -5.1319394820E+07 J System Enthalpy = 3.8756326471E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE      : 793.0000
PRESSURE/Pa      : 101325.0
VOLUME/m3        : undefined
SYSTEM AMOUNT/mol : undefined
COMP. AMOUNTS/mol : 1534.605      263.4813      7.280928      16.65182
SYSTEM MASS/kg   : 100.0000
COMP. MASSES/kg  : 85.70000      13.70000      0.4000000     0.2000000

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STEPPED VARIABLE      INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE           773.000      to      1773.00      by      20.0000

```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 793.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-2.894153E+04	1.240735E-02	1.534605E+03	8.570000E+01
Cr		-2.918874E+04	1.195079E-02	2.634813E+02	1.370000E+01
Mn		-7.430626E+04	1.275251E-05	7.280928E+00	4.000000E-01
C		-6.118198E+04	9.333955E-05	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.646077E+01	FCC_A1	0.8842146	0.1119322	0.0038476
3.539230E+00	M23C6	0.1152730	0.8202160	0.0081532
		C		
9.646077E+01	FCC_A1	0.0000056		
3.539230E+00	M23C6	0.0563578		

Gibbs Energy = -5.3664309872E+07 J System Enthalpy = 3.9877688149E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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```

TEMPERATURE      : 813.0000
PRESSURE/Pa      : 101325.0
VOLUME/m3        : undefined
SYSTEM AMOUNT/mol : undefined
COMP. AMOUNTS/mol : 1534.605      263.4813      7.280928      16.65182
SYSTEM MASS/kg   : 100.0000
COMP. MASSES/kg  : 85.70000      13.70000      0.4000000     0.2000000

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STEPPED VARIABLE      INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE           773.000          to          1773.00          by          20.0000

```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 813.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.023803E+04	1.140981E-02	1.534605E+03	8.570000E+01
Cr		-3.062364E+04	1.077714E-02	2.634813E+02	1.370000E+01
Mn		-7.643572E+04	1.227965E-05	7.280928E+00	4.000000E-01
C		-6.058864E+04	1.280334E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.646387E+01	FCC_A1	0.8838392	0.1122933	0.0038588
3.536130E+00	M23C6	0.1248406	0.8109853	0.0078530
		C		
9.646387E+01	FCC_A1	0.0000087		
3.536130E+00	M23C6	0.0563212		

Gibbs Energy = -5.6037609697E+07 J System Enthalpy = 4.1007110588E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	833.0000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

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STEPPED VARIABLE      INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE           773.000          to          1773.00          by          20.0000

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*** MULTIPHASE - Stage 1* Results ***

Temperature = 833.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

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Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.155000E+04	1.051127E-02	1.534605E+03	8.570000E+01
Cr		-3.207095E+04	9.749648E-03	2.634813E+02	1.370000E+01
Mn		-7.858232E+04	1.181653E-05	7.280928E+00	4.000000E-01
C		-6.003975E+04	1.718713E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.646937E+01	FCC_A1	0.8834388	0.1126786	0.0038693
3.530626E+00	M23C6	0.1345969	0.8015473	0.0075720
		C		
9.646937E+01	FCC_A1	0.0000133		
3.530626E+00	M23C6	0.0562838		

Gibbs Energy = -5.8438797627E+07 J System Enthalpy = 4.2144885920E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	853.0000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE				
TEMPERATURE	773.000	to	1773.00	by	20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 853.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.287722E+04	9.699932E-03	1.534605E+03	8.570000E+01
Cr		-3.353027E+04	8.846653E-03	2.634813E+02	1.370000E+01
Mn		-8.074582E+04	1.136429E-05	7.280928E+00	4.000000E-01
C		-5.953530E+04	2.261337E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn

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9.647813E+01 FCC_A1	0.8830089	0.1130921	0.0038792
3.521867E+00 M23C6	0.1445117	0.7919331	0.0073094

C

9.647813E+01 FCC_A1	0.0000198
3.521867E+00 M23C6	0.0562458

Gibbs Energy = -6.0867408782E+07 J System Enthalpy = 4.3291383773E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
--------	-------	--------	-------

NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	873.0000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 873.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.421947E+04	8.965641E-03	1.534605E+03	8.570000E+01
Cr		-3.500121E+04	8.050229E-03	2.634813E+02	1.370000E+01
Mn		-8.292600E+04	1.092377E-05	7.280928E+00	4.000000E-01
C		-5.907530E+04	2.920166E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.649119E+01 FCC_A1		0.8825438	0.1135388	0.0038886
3.508815E+00 M23C6		0.1545545	0.7821738	0.0070645

C

9.649119E+01 FCC_A1	0.0000288
3.508815E+00 M23C6	0.0562072

Gibbs Energy = -6.3323009694E+07 J System Enthalpy = 4.4447054858E+07 J

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*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	893.0000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 893.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.557863E+04	8.297292E-03	1.534605E+03	8.570000E+01
Cr		-3.648540E+04	7.343400E-03	2.634813E+02	1.370000E+01
Mn		-8.512472E+04	1.049272E-05	7.280928E+00	4.000000E-01
C		-5.864707E+04	3.712083E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.650977E+01	FCC_A1	0.8820369	0.1140247	0.0038974
3.490228E+00	M23C6	0.1646948	0.7723008	0.0068362
		C		
9.650977E+01	FCC_A1	0.0000410		
3.490228E+00	M23C6	0.0561682		

Gibbs Energy = -6.5805198020E+07 J System Enthalpy = 4.5612431441E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT			
TEMPERATURE	:	913.0000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
 TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 913.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.694834E+04	7.694167E-03	1.534605E+03	8.570000E+01
Cr		-3.797616E+04	6.719843E-03	2.634813E+02	1.370000E+01
Mn		-8.733567E+04	1.008022E-05	7.280928E+00	4.000000E-01
C		-5.828881E+04	4.626574E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.653534E+01	FCC_A1	0.8814805	0.1145563	0.0039058
3.464656E+00	M23C6	0.1749022	0.7623455	0.0066235
		C		
9.653534E+01	FCC_A1	0.0000573		
3.464656E+00	M23C6	0.0561288		

Gibbs Energy = -6.8313602249E+07 J System Enthalpy = 4.6788124394E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	933.0000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

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STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
 TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 933.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.833466E+04	7.142699E-03	1.534605E+03	8.570000E+01
Cr		-3.947923E+04	6.162889E-03	2.634813E+02	1.370000E+01
Mn		-8.956479E+04	9.677891E-06	7.280928E+00	4.000000E-01
C		-5.796243E+04	5.688739E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.656956E+01	FCC_A1	0.8808663	0.1151413	0.0039138
3.430439E+00	M23C6	0.1851457	0.7523397	0.0064253
		C		
9.656956E+01	FCC_A1	0.0000786		
3.430439E+00	M23C6	0.0560893		

Gibbs Energy = -7.0847881339E+07 J System Enthalpy = 4.7974816908E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	953.0000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
 TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 953.0000 K

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Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.973541E+04	6.639380E-03	1.534605E+03	8.570000E+01
Cr		-4.099202E+04	5.665701E-03	2.634813E+02	1.370000E+01
Mn		-9.180991E+04	9.288753E-06	7.280928E+00	4.000000E-01
C		-5.768067E+04	6.895393E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.661429E+01	FCC_A1	0.8801850	0.1157876	0.0039215
3.385707E+00	M23C6	0.1953947	0.7423150	0.0062406
		C		
9.661429E+01	FCC_A1	0.0001059		
3.385707E+00	M23C6	0.0560497		

Gibbs Energy = -7.3407724208E+07 J System Enthalpy = 4.9173255233E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	973.0000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE				
TEMPERATURE	773.000	to	1773.00	by	20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 973.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.115050E+04	6.179138E-03	1.534605E+03	8.570000E+01
Cr		-4.251399E+04	5.220740E-03	2.634813E+02	1.370000E+01
Mn		-9.407088E+04	8.912833E-06	7.280928E+00	4.000000E-01
C		-5.744360E+04	8.246487E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
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```
          Fe          Cr          Mn
9.667160E+01 FCC_A1  0.8794271  0.1165037  0.0039288
3.328402E+00 M23C6  0.2056187  0.7323027  0.0060684
```

```
          C
9.667160E+01 FCC_A1  0.0001404
3.328402E+00 M23C6  0.0560102
```

Gibbs Energy = -7.5992849045E+07 J System Enthalpy = 5.0384235589E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

```
NUMBER      COMPONENT              STATUS      AMOUNT      DELTA      REF.P
```

```
NUMBER      PHASE              STATUS      MODEL
```

```
NUMBER      SUBSTANCE              STATUS/CONSTRAINT
```

```
TEMPERATURE      :   993.0000
PRESSURE/Pa      :   101325.0
VOLUME/m3       :   undefined
SYSTEM AMOUNT/mol :   undefined
COMP. AMOUNTS/mol :  1534.605      263.4813      7.280928      16.65182
SYSTEM MASS/kg   :   100.0000
COMP. MASSES/kg  :   85.70000     13.70000     0.4000000     0.2000000
```

```
STEPPED VARIABLE      INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE           773.000      to      1773.00      by      20.0000
```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 993.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.257985E+04	5.757508E-03	1.534605E+03	8.570000E+01
Cr		-4.404459E+04	4.821554E-03	2.634813E+02	1.370000E+01
Mn		-9.634758E+04	8.550068E-06	7.280928E+00	4.000000E-01
C		-5.725117E+04	9.738692E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.674371E+01	FCC_A1	0.8785825	0.1172983	0.0039358
3.256290E+00	M23C6	0.2157873	0.7223340	0.0059078
C				
9.674371E+01	FCC_A1	0.0001834		
3.256290E+00	M23C6	0.0559709		

Gibbs Energy = -7.8603002392E+07 J System Enthalpy = 5.1608590137E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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```

TEMPERATURE      : 1013.000
PRESSURE/Pa      : 101325.0
VOLUME/m3        : undefined
SYSTEM AMOUNT/mol : undefined
COMP. AMOUNTS/mol : 1534.605      263.4813      7.280928      16.65182
SYSTEM MASS/kg   : 100.0000
COMP. MASSES/kg  : 85.70000      13.70000      0.4000000     0.2000000
    
```

```

STEPPED VARIABLE      INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE           773.000      to      1773.00      by      20.0000
    
```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1013.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.402342E+04	5.370566E-03	1.534605E+03	8.570000E+01
Cr		-4.558328E+04	4.462613E-03	2.634813E+02	1.370000E+01
Mn		-9.863990E+04	8.200314E-06	7.280928E+00	4.000000E-01
C		-5.710326E+04	1.136539E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.683301E+01	FCC_A1	0.8776415	0.1181799	0.0039425
3.166989E+00	M23C6	0.2258709	0.7124393	0.0057580
		C		
9.683301E+01	FCC_A1	0.0002361		
3.166989E+00	M23C6	0.0559318		

Gibbs Energy = -8.1237957991E+07 J System Enthalpy = 5.2847171009E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
--------	-------	--------	-------

NUMBER	SUBSTANCE	STATUS/CONSTRAINT			
TEMPERATURE	:	1033.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
 TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1033.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.548118E+04	5.014856E-03	1.534605E+03	8.570000E+01
Cr		-4.712951E+04	4.139149E-03	2.634813E+02	1.370000E+01
Mn		-1.009477E+05	7.863380E-06	7.280928E+00	4.000000E-01
C		-5.699966E+04	1.311686E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.694200E+01	FCC_A1	0.8765942	0.1191569	0.0039490
3.057997E+00	M23C6	0.2358411	0.7026478	0.0056179
		C		
9.694200E+01	FCC_A1	0.0003000		
3.057997E+00	M23C6	0.0558932		

Gibbs Energy = -8.3897515409E+07 J System Enthalpy = 5.4100833888E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
--------	-----------	--------	--------	-------	-------

NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	1053.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			

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COMP. MASSES/kg : 85.70000 13.70000 0.4000000 0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1053.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.695309E+04	4.687323E-03	1.534605E+03	8.570000E+01
Cr		-4.868276E+04	3.847035E-03	2.634813E+02	1.370000E+01
Mn		-1.032710E+05	7.539020E-06	7.280928E+00	4.000000E-01
C		-5.694001E+04	1.498066E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.707327E+01	FCC_A1	0.8754314	0.1202371	0.0039552
2.926729E+00	M23C6	0.2456704	0.6929876	0.0054869
		C		
9.707327E+01	FCC_A1	0.0003763		
2.926729E+00	M23C6	0.0558551		

Gibbs Energy = -8.6581498458E+07 J System Enthalpy = 5.5370422675E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE : 1073.000
PRESSURE/Pa : 101325.0
VOLUME/m3 : undefined
SYSTEM AMOUNT/mol : undefined
COMP. AMOUNTS/mol : 1534.605 263.4813 7.280928 16.65182
SYSTEM MASS/kg : 100.0000
COMP. MASSES/kg : 85.70000 13.70000 0.4000000 0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1073.0000 K

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Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.843916E+04	4.385265E-03	1.534605E+03	8.570000E+01
Cr		-5.024252E+04	3.582689E-03	2.634813E+02	1.370000E+01
Mn		-1.056096E+05	7.226972E-06	7.280928E+00	4.000000E-01
C		-5.692382E+04	1.694203E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.722946E+01	FCC_A1	0.8741444	0.1214280	0.0039611
2.770542E+00	M23C6	0.2553332	0.6834849	0.0053643
		C		
9.722946E+01	FCC_A1	0.0004665		
2.770542E+00	M23C6	0.0558176		

Gibbs Energy = -8.9289753451E+07 J System Enthalpy = 5.6656755582E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
--------	-------	--------	-------

NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	1093.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE			
TEMPERATURE	773.000	to	1773.00	by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1093.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.993939E+04	4.106285E-03	1.534605E+03	8.570000E+01
Cr		-5.180833E+04	3.342983E-03	2.634813E+02	1.370000E+01
Mn		-1.079634E+05	6.926940E-06	7.280928E+00	4.000000E-01
C		-5.695041E+04	1.898452E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

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Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.741323E+01	FCC_A1	0.8727255	0.1227358	0.0039668
2.586771E+00	M23C6	0.2648057	0.6741641	0.0052493
		C		
9.741323E+01	FCC_A1	0.0005719		
2.586771E+00	M23C6	0.0557809		

Gibbs Energy = -9.2022147357E+07 J System Enthalpy = 5.7960613608E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
NUMBER	PHASE	STATUS	MODEL		
NUMBER	SUBSTANCE	STATUS/CONSTRAINT			
TEMPERATURE	:	1113.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE				
TEMPERATURE	773.000	to	1773.00	by	20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1113.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.145377E+04	3.848254E-03	1.534605E+03	8.570000E+01
Cr		-5.337978E+04	3.125187E-03	2.634813E+02	1.370000E+01
Mn		-1.103324E+05	6.638609E-06	7.280928E+00	4.000000E-01
C		-5.701898E+04	2.109053E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.762724E+01	FCC_A1	0.8711678	0.1241662	0.0039723
2.372760E+00	M23C6	0.2740664	0.6650473	0.0051414
		C		
9.762724E+01	FCC_A1	0.0006938		
2.372760E+00	M23C6	0.0557449		

Gibbs Energy = -9.4778565907E+07 J System Enthalpy = 5.9282732350E+07 J

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*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
--------	-------	--------	-------

NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	1133.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1133.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.298233E+04	3.609275E-03	1.534605E+03	8.570000E+01
Cr		-5.495648E+04	2.926903E-03	2.634813E+02	1.370000E+01
Mn		-1.127164E+05	6.361671E-06	7.280928E+00	4.000000E-01
C		-5.712852E+04	2.324198E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.787412E+01	FCC_A1	0.8694655	0.1257237	0.0039774
2.125882E+00	M23C6	0.2830959	0.6561543	0.0050400
		C		
9.787412E+01	FCC_A1	0.0008334		
2.125882E+00	M23C6	0.0557099		

Gibbs Energy = -9.7558911706E+07 J System Enthalpy = 6.0623796339E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT			
TEMPERATURE	:	1153.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE			
TEMPERATURE	773.000	to	1773.00	by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1153.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.452508E+04	3.387657E-03	1.534605E+03	8.570000E+01
Cr		-5.653811E+04	2.746028E-03	2.634813E+02	1.370000E+01
Mn		-1.151154E+05	6.095801E-06	7.280928E+00	4.000000E-01
C		-5.727791E+04	2.542086E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.815644E+01	FCC_A1	0.8676141	0.1274118	0.0039823
1.843563E+00	M23C6	0.2918773	0.6475023	0.0049446
		C		
9.815644E+01	FCC_A1	0.0009919		
1.843563E+00	M23C6	0.0556758		

Gibbs Energy = -1.0036310243E+08 J System Enthalpy = 6.1984437623E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT			
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TEMPERATURE	:	1173.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182

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SYSTEM MASS/kg      : 100.0000
COMP. MASSES/kg    : 85.70000      13.70000      0.4000000      0.2000000

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STEPPED VARIABLE    INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE         773.000      to      1773.00      by      20.0000

```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1173.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.608203E+04	3.181887E-03	1.534605E+03	8.570000E+01
Cr		-5.812439E+04	2.580709E-03	2.634813E+02	1.370000E+01
Mn		-1.175292E+05	5.840675E-06	7.280928E+00	4.000000E-01
C		-5.746588E+04	2.760973E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.847671E+01	FCC_A1	0.8656099	0.1292331	0.0039868
1.523293E+00	M23C6	0.3003962	0.6391062	0.0048549
		C		
9.847671E+01	FCC_A1	0.0011702		
1.523293E+00	M23C6	0.0556427		

Gibbs Energy = -1.0319106911E+08 J System Enthalpy = 6.3365236413E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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```

TEMPERATURE      : 1193.000
PRESSURE/Pa      : 101325.0
VOLUME/m3        : undefined
SYSTEM AMOUNT/mol : undefined
COMP. AMOUNTS/mol : 1534.605      263.4813      7.280928      16.65182
SYSTEM MASS/kg   : 100.0000
COMP. MASSES/kg  : 85.70000      13.70000      0.4000000      0.2000000

```

```

STEPPED VARIABLE    INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE         773.000      to      1773.00      by      20.0000

```

*** MULTIPHASE - Stage 1* Results ***

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Temperature = 1193.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.765320E+04	2.990611E-03	1.534605E+03	8.570000E+01
Cr		-5.971510E+04	2.429314E-03	2.634813E+02	1.370000E+01
Mn		-1.199576E+05	5.595968E-06	7.280928E+00	4.000000E-01
C		-5.769106E+04	2.979220E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.883736E+01	FCC_A1	0.8634504	0.1311892	0.0039909
1.162641E+00	M23C6	0.3086404	0.6309785	0.0047704
		C		
9.883736E+01	FCC_A1	0.0013694		
1.162641E+00	M23C6	0.0556106		

Gibbs Energy = -1.0604275463E+08 J System Enthalpy = 6.4766724988E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	1213.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE			
TEMPERATURE	773.000	to	1773.00	by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1213.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.923862E+04	2.812611E-03	1.534605E+03	8.570000E+01
Cr		-6.131004E+04	2.290402E-03	2.634813E+02	1.370000E+01
Mn		-1.224006E+05	5.361359E-06	7.280928E+00	4.000000E-01
C		-5.795197E+04	3.195320E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

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Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.924074E+01	FCC_A1	0.8611344	0.1332808	0.0039947
7.592559E-01	M23C6	0.3165999	0.6231297	0.0046907

C

9.924074E+01	FCC_A1	0.0015901
7.592559E-01	M23C6	0.0555797

Gibbs Energy = -1.0891811234E+08 J System Enthalpy = 6.6189393888E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	1233.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE				
TEMPERATURE	773.000	to	1773.00	by	20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1233.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-6.083830E+04	2.646791E-03	1.534605E+03	8.570000E+01
Cr		-6.290906E+04	2.162702E-03	2.634813E+02	1.370000E+01
Mn		-1.248579E+05	5.136534E-06	7.280928E+00	4.000000E-01
C		-5.824711E+04	3.407925E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
9.968913E+01	FCC_A1	0.8586613	0.1355076	0.0039981
3.108712E-01	M23C6	0.3242667	0.6155678	0.0046156

C

9.968913E+01	FCC_A1	0.0018330
3.108712E-01	M23C6	0.0555499

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Gibbs Energy = -1.1181710494E+08 J System Enthalpy = 6.7633699359E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	1253.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1253.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-6.244175E+04	2.494682E-03	1.534605E+03	8.570000E+01
Cr		-6.454422E+04	2.038780E-03	2.634813E+02	1.370000E+01
Mn		-1.273227E+05	4.924329E-06	7.280928E+00	4.000000E-01
C		-5.902960E+04	3.461434E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase
		Fe Cr Mn
1.000000E+02	FCC_A1	0.8570000 0.1370000 0.0040000
		C
1.000000E+02	FCC_A1	0.0020000

Gibbs Energy = -1.1473948235E+08 J System Enthalpy = 6.9023368368E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT			
TEMPERATURE	:	1273.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE				
TEMPERATURE	773.000	to	1773.00	by	20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1273.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-6.403752E+04	2.357400E-03	1.534605E+03	8.570000E+01
Cr		-6.624548E+04	1.913537E-03	2.634813E+02	1.370000E+01
Mn		-1.297885E+05	4.726719E-06	7.280928E+00	4.000000E-01
C		-6.063073E+04	3.252518E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.1768269099E+08 J System Enthalpy = 7.0289611383E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	1293.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

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STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
 TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1293.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-6.564784E+04	2.228559E-03	1.534605E+03	8.570000E+01
Cr		-6.795745E+04	1.797723E-03	2.634813E+02	1.370000E+01
Mn		-1.322677E+05	4.537147E-06	7.280928E+00	4.000000E-01
C		-6.223853E+04	3.060202E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.2064585151E+08 J System Enthalpy = 7.1563183365E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	1313.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
 TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1313.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
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Fe	-6.726455E+04	2.109135E-03	1.534605E+03	8.570000E+01
Cr	-6.968171E+04	1.690229E-03	2.634813E+02	1.370000E+01
Mn	-1.347582E+05	4.356085E-06	7.280928E+00	4.000000E-01
C	-6.385416E+04	2.882540E-03	1.665182E+01	2.000000E-01
Total			1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.2362876895E+08 J System Enthalpy = 7.2844123946E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	1333.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE				
TEMPERATURE	773.000	to	1773.00	by	20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1333.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-6.889367E+04	1.997174E-03	1.534605E+03	8.570000E+01
Cr		-7.141685E+04	1.590544E-03	2.634813E+02	1.370000E+01
Mn		-1.372613E+05	4.182588E-06	7.280928E+00	4.000000E-01
C		-6.547661E+04	2.718397E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

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Gibbs Energy = -1.2663125490E+08 J System Enthalpy = 7.4132473170E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	1353.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1353.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.053338E+04	1.892428E-03	1.534605E+03	8.570000E+01
Cr		-7.316322E+04	1.497935E-03	2.634813E+02	1.370000E+01
Mn		-1.397766E+05	4.016492E-06	7.280928E+00	4.000000E-01
C		-6.710606E+04	2.566451E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.2965312719E+08 J System Enthalpy = 7.5428271428E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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Printed: Wednesday, September 23, 2009 12:33:58

NUMBER	SUBSTANCE	STATUS/CONSTRAINT			
TEMPERATURE	:	1373.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE				
TEMPERATURE	773.000	to	1773.00	by	20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1373.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.218335E+04	1.794378E-03	1.534605E+03	8.570000E+01
Cr		-7.492099E+04	1.411775E-03	2.634813E+02	1.370000E+01
Mn		-1.423039E+05	3.857479E-06	7.280928E+00	4.000000E-01
C		-6.874242E+04	2.425593E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.3269420967E+08 J System Enthalpy = 7.6731559410E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT			
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TEMPERATURE	:	1393.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

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STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
 TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1393.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.384049E+04	1.702955E-03	1.534605E+03	8.570000E+01
Cr		-7.669309E+04	1.331187E-03	2.634813E+02	1.370000E+01
Mn		-1.448431E+05	3.705243E-06	7.280928E+00	4.000000E-01
C		-7.038561E+04	2.294830E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.3575433188E+08 J System Enthalpy = 7.8042378112E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	1413.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
 TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1413.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

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Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.551495E+04	1.616199E-03	1.534605E+03	8.570000E+01
Cr		-7.846924E+04	1.256857E-03	2.634813E+02	1.370000E+01
Mn		-1.473942E+05	3.559489E-06	7.280928E+00	4.000000E-01
C		-7.203557E+04	2.173275E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.3883332887E+08 J System Enthalpy = 7.9360768815E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	1433.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1433.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.719579E+04	1.535281E-03	1.534605E+03	8.570000E+01
Cr		-8.026025E+04	1.187100E-03	2.634813E+02	1.370000E+01
Mn		-1.499570E+05	3.419933E-06	7.280928E+00	4.000000E-01
C		-7.369220E+04	2.060132E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		

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1.000000E+02 FCC_A1 0.0020000

Gibbs Energy = -1.4193104093E+08 J System Enthalpy = 8.0686773102E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	1453.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1453.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.888675E+04	1.459256E-03	1.534605E+03	8.570000E+01
Cr		-8.206226E+04	1.121957E-03	2.634813E+02	1.370000E+01
Mn		-1.525314E+05	3.286303E-06	7.280928E+00	4.000000E-01
C		-7.535544E+04	1.954686E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.4504731342E+08 J System Enthalpy = 8.2020432715E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE : 1473.000
 PRESSURE/Pa : 101325.0
 VOLUME/m3 : undefined
 SYSTEM AMOUNT/mol : undefined
 COMP. AMOUNTS/mol : 1534.605 263.4813 7.280928 16.65182
 SYSTEM MASS/kg : 100.0000
 COMP. MASSES/kg : 85.70000 13.70000 0.4000000 0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
 TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1473.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-8.058839E+04	1.387698E-03	1.534605E+03	8.570000E+01
Cr		-8.387457E+04	1.061122E-03	2.634813E+02	1.370000E+01
Mn		-1.551174E+05	3.158337E-06	7.280928E+00	4.000000E-01
C		-7.702522E+04	1.856294E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.4818199649E+08 J System Enthalpy = 8.3361789682E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE : 1493.000
 PRESSURE/Pa : 101325.0
 VOLUME/m3 : undefined
 SYSTEM AMOUNT/mol : undefined
 COMP. AMOUNTS/mol : 1534.605 263.4813 7.280928 16.65182
 SYSTEM MASS/kg : 100.0000

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COMP. MASSES/kg : 85.70000 13.70000 0.4000000 0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1493.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-8.229868E+04	1.320508E-03	1.534605E+03	8.570000E+01
Cr		-8.569911E+04	1.004096E-03	2.634813E+02	1.370000E+01
Mn		-1.577148E+05	3.035784E-06	7.280928E+00	4.000000E-01
C		-7.870147E+04	1.764377E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.5133494497E+08 J System Enthalpy = 8.4710886226E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE : 1513.000
PRESSURE/Pa : 101325.0
VOLUME/m3 : undefined
SYSTEM AMOUNT/mol : undefined
COMP. AMOUNTS/mol : 1534.605 263.4813 7.280928 16.65182
SYSTEM MASS/kg : 100.0000
COMP. MASSES/kg : 85.70000 13.70000 0.4000000 0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1513.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

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Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-8.401944E+04	1.257175E-03	1.534605E+03	8.570000E+01
Cr		-8.753394E+04	9.507461E-04	2.634813E+02	1.370000E+01
Mn		-1.603236E+05	2.918405E-06	7.280928E+00	4.000000E-01
C		-8.038411E+04	1.678411E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.5450601812E+08 J System Enthalpy = 8.6067764763E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	1533.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE				
TEMPERATURE	773.000	to	1773.00	by	20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1533.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-8.574986E+04	1.197506E-03	1.534605E+03	8.570000E+01
Cr		-8.937975E+04	9.007366E-04	2.634813E+02	1.370000E+01
Mn		-1.629437E+05	2.805966E-06	7.280928E+00	4.000000E-01
C		-8.207307E+04	1.597922E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000

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C

1.000000E+02 FCC_A1 0.0020000

Gibbs Energy = -1.5769507964E+08 J System Enthalpy = 8.7432483298E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	1553.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1553.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-8.748993E+04	1.141246E-03	1.534605E+03	8.570000E+01
Cr		-9.123647E+04	8.538251E-04	2.634813E+02	1.370000E+01
Mn		-1.655750E+05	2.698237E-06	7.280928E+00	4.000000E-01
C		-8.376830E+04	1.522482E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000

C

1.000000E+02 FCC_A1 0.0020000

Gibbs Energy = -1.6090199753E+08 J System Enthalpy = 8.8805122740E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE : 1573.000
 PRESSURE/Pa : 101325.0
 VOLUME/m3 : undefined
 SYSTEM AMOUNT/mol : undefined
 COMP. AMOUNTS/mol : 1534.605 263.4813 7.280928 16.65182
 SYSTEM MASS/kg : 100.0000
 COMP. MASSES/kg : 85.70000 13.70000 0.4000000 0.2000000

STEPPED VARIABLE INITIAL, FINAL AND STEP VALUES OF VARIABLE
 TEMPERATURE 773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1573.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-8.923956E+04	1.088166E-03	1.534605E+03	8.570000E+01
Cr		-9.310408E+04	8.097835E-04	2.634813E+02	1.370000E+01
Mn		-1.682176E+05	2.594992E-06	7.280928E+00	4.000000E-01
C		-8.546972E+04	1.451700E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.6412664413E+08 J System Enthalpy = 9.0185716874E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE : 1593.000
 PRESSURE/Pa : 101325.0
 VOLUME/m3 : undefined
 SYSTEM AMOUNT/mol : undefined
 COMP. AMOUNTS/mol : 1534.605 263.4813 7.280928 16.65182

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SYSTEM MASS/kg      : 100.0000
COMP. MASSES/kg    : 85.70000      13.70000      0.4000000      0.2000000

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STEPPED VARIABLE   INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE        773.000      to      1773.00      by      20.0000

```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1593.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-9.099845E+04	1.038069E-03	1.534605E+03	8.570000E+01
Cr		-9.498280E+04	7.683915E-04	2.634813E+02	1.370000E+01
Mn		-1.708714E+05	2.496021E-06	7.280928E+00	4.000000E-01
C		-8.717727E+04	1.385224E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.6736889538E+08 J System Enthalpy = 9.1574298373E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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```

TEMPERATURE      : 1613.000
PRESSURE/Pa      : 101325.0
VOLUME/m3        : undefined
SYSTEM AMOUNT/mol : undefined
COMP. AMOUNTS/mol : 1534.605      263.4813      7.280928      16.65182
SYSTEM MASS/kg   : 100.0000
COMP. MASSES/kg  : 85.70000      13.70000      0.4000000      0.2000000

```

```

STEPPED VARIABLE   INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE        773.000      to      1773.00      by      20.0000

```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1613.0000 K

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Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-9.276704E+04	9.907203E-04	1.534605E+03	8.570000E+01
Cr		-9.687208E+04	7.294892E-04	2.634813E+02	1.370000E+01
Mn		-1.735365E+05	2.401131E-06	7.280928E+00	4.000000E-01
C		-8.889089E+04	1.322730E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.7062863074E+08 J System Enthalpy = 9.2970901474E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
--------	-----------	--------	--------	-------	-------

NUMBER	PHASE	STATUS	MODEL
--------	-------	--------	-------

NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	1633.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE				
TEMPERATURE	773.000	to	1773.00	by	20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1633.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-9.454669E+04	9.458423E-04	1.534605E+03	8.570000E+01
Cr		-9.877049E+04	6.929725E-04	2.634813E+02	1.370000E+01
Mn		-1.762128E+05	2.310138E-06	7.280928E+00	4.000000E-01
C		-9.061052E+04	1.263926E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000

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1.000000E+02 FCC_A1 0.0020000

Gibbs Energy = -1.7390573309E+08 J System Enthalpy = 9.4375561889E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	1653.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1653.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-9.633219E+04	9.036261E-04	1.534605E+03	8.570000E+01
Cr		-1.006832E+05	6.584191E-04	2.634813E+02	1.370000E+01
Mn		-1.789002E+05	2.222871E-06	7.280928E+00	4.000000E-01
C		-9.233609E+04	1.208543E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000

C

1.000000E+02 FCC_A1 0.0020000

Gibbs Energy = -1.7720008863E+08 J System Enthalpy = 9.5788316433E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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Printed: Wednesday, September 23, 2009 12:33:58

NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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```

TEMPERATURE      : 1673.000
PRESSURE/Pa      : 101325.0
VOLUME/m3        : undefined
SYSTEM AMOUNT/mol : undefined
COMP. AMOUNTS/mol : 1534.605      263.4813      7.280928      16.65182
SYSTEM MASS/kg   : 100.0000
COMP. MASSES/kg  : 85.70000      13.70000      0.4000000     0.2000000
  
```

```

STEPPED VARIABLE      INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE           773.000      to      1773.00      by      20.0000
  
```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1673.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-9.812833E+04	8.635768E-04	1.534605E+03	8.570000E+01
Cr		-1.026052E+05	6.259312E-04	2.634813E+02	1.370000E+01
Mn		-1.815986E+05	2.139169E-06	7.280928E+00	4.000000E-01
C		-9.406754E+04	1.156336E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.8051158677E+08 J System Enthalpy = 9.7209203024E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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```

TEMPERATURE      : 1693.000
PRESSURE/Pa      : 101325.0
VOLUME/m3        : undefined
SYSTEM AMOUNT/mol : undefined
  
```

Printed: Wednesday, September 23, 2009 12:33:58

COMP. AMOUNTS/mol :	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg :	100.0000			
COMP. MASSES/kg :	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE			
TEMPERATURE	773.000	to	1773.00	by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1693.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-9.993388E+04	8.256342E-04	1.534605E+03	8.570000E+01
Cr		-1.045378E+05	5.953127E-04	2.634813E+02	1.370000E+01
Mn		-1.843081E+05	2.058878E-06	7.280928E+00	4.000000E-01
C		-9.580483E+04	1.107081E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.8384012001E+08 J System Enthalpy = 9.8638260410E+07 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE :	1713.000			
PRESSURE/Pa :	101325.0			
VOLUME/m3 :	undefined			
SYSTEM AMOUNT/mol :	undefined			
COMP. AMOUNTS/mol :	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg :	100.0000			
COMP. MASSES/kg :	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE			
TEMPERATURE	773.000	to	1773.00	by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1713.0000 K

Printed: Wednesday, September 23, 2009 12:33:58

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-1.017485E+05	7.896859E-04	1.534605E+03	8.570000E+01
Cr		-1.064812E+05	5.664240E-04	2.634813E+02	1.370000E+01
Mn		-1.870284E+05	1.981851E-06	7.280928E+00	4.000000E-01
C		-9.754788E+04	1.060572E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.8718558386E+08 J System Enthalpy = 1.0007552818E+08 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	1733.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE				
TEMPERATURE	773.000	to	1773.00	by	20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1733.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-1.035720E+05	7.556122E-04	1.534605E+03	8.570000E+01
Cr		-1.084356E+05	5.391480E-04	2.634813E+02	1.370000E+01
Mn		-1.897597E+05	1.907950E-06	7.280928E+00	4.000000E-01
C		-9.929665E+04	1.016620E-03	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn

1.000000E+02 FCC_A1 0.8570000 0.1370000 0.0040000

C

1.000000E+02 FCC_A1 0.0020000

Gibbs Energy = -1.9054787674E+08 J System Enthalpy = 1.0152104648E+08 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
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TEMPERATURE	:	1753.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1753.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-1.054065E+05	7.231894E-04	1.534605E+03	8.570000E+01
Cr		-1.103986E+05	5.134563E-04	2.634813E+02	1.370000E+01
Mn		-1.925016E+05	1.837043E-06	7.280928E+00	4.000000E-01
C		-1.010511E+05	9.750528E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.9392689988E+08 J System Enthalpy = 1.0297485619E+08 J

*** PROBLEM settings ***

Changes only listed under components/phases/substances

Printed: Wednesday, September 23, 2009 12:33:58

NUMBER	COMPONENT	STATUS	AMOUNT	DELTA	REF.P
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NUMBER	PHASE	STATUS	MODEL
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NUMBER	SUBSTANCE	STATUS/CONSTRAINT
--------	-----------	-------------------

TEMPERATURE	:	1773.000			
PRESSURE/Pa	:	101325.0			
VOLUME/m3	:	undefined			
SYSTEM AMOUNT/mol	:	undefined			
COMP. AMOUNTS/mol	:	1534.605	263.4813	7.280928	16.65182
SYSTEM MASS/kg	:	100.0000			
COMP. MASSES/kg	:	85.70000	13.70000	0.4000000	0.2000000

STEPPED VARIABLE	INITIAL, FINAL AND STEP VALUES OF VARIABLE
TEMPERATURE	773.000 to 1773.00 by 20.0000

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1773.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-1.072457E+05	6.926236E-04	1.534605E+03	8.570000E+01
Cr		-1.123767E+05	4.890292E-04	2.634813E+02	1.370000E+01
Mn		-1.952542E+05	1.769003E-06	7.280928E+00	4.000000E-01
C		-1.028111E+05	9.357104E-04	1.665182E+01	2.000000E-01
Total				1.822019E+03	1.000000E+02

Mass/kg	Phase	Mass fraction of component within phase		
		Fe	Cr	Mn
1.000000E+02	FCC_A1	0.8570000	0.1370000	0.0040000
		C		
1.000000E+02	FCC_A1	0.0020000		

Gibbs Energy = -1.9732255723E+08 J System Enthalpy = 1.0443699855E+08 J