

11.5 GRAVIMETRIC ANALYSIS

TABLE 11.19 Gravimetric Factors

In the following table the elements are arranged in alphabetical order.

Example: To convert a given weight of Al_2O_3 to its equivalent of Al, multiply by the factor at the right, 0.52926; similarly to convert Al to Al_2O_3 , multiply by the factor at the left, 1.8894.

Factor		Factor
ALUMINUM		
Al = 26.9815		
0.74971	$\text{Al} \leftrightarrow \text{Al}_4\text{C}_3$	1.3341
0.058728	$\text{Al} \leftrightarrow \text{Al}(\text{C}_9\text{H}_6\text{ON})_3$ (oxinate)	17.027
0.65829	$\text{Al} \leftrightarrow \text{AlN}$	1.5191
1.8894	$\text{Al}_2\text{O}_3 \leftrightarrow \text{Al}$	0.52926
1.4165	$\text{Al}_2\text{O}_3 \leftrightarrow \text{Al}_4\text{C}_3$	0.70596
0.38233	$\text{Al}_2\text{O}_3 \leftrightarrow \text{AlCl}_3$	2.6155
0.41804	$\text{Al}_2\text{O}_3 \leftrightarrow \text{AlPO}_4$	2.3921
0.29800	$\text{Al}_2\text{O}_3 \leftrightarrow \text{Al}_2(\text{SO}_4)_3$	3.3557
0.15300	$\text{Al}_2\text{O}_3 \leftrightarrow \text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$	6.5361
0.10746	$\text{Al}_2\text{O}_3 \leftrightarrow \text{K}_2\text{SO}_4 \cdot \text{Al}_2(\text{SO}_4)_3 \cdot 24\text{H}_2\text{O}$	9.3055
0.11246	$\text{Al}_2\text{O}_3 \leftrightarrow (\text{NH}_4)_2\text{SO}_4 \cdot \text{Al}_2(\text{SO}_4)_3 \cdot 24\text{H}_2\text{O}$	8.8922
4.5197	$\text{AlPO}_4 \leftrightarrow \text{Al}$	0.22125
1.3946	$\text{CaF}_2 \leftrightarrow \text{AlF}_3$	0.71704
0.58196	$\text{P}_2\text{O}_5 \leftrightarrow \text{AlPO}_4$	1.7183
AMMONIUM		
NH₄ = 18.03858		
1.1013	$\text{Ag} \leftrightarrow \text{NH}_4\text{Br}$	0.90802
2.0166	$\text{Ag} \leftrightarrow \text{NH}_4\text{Cl}$	0.49590
0.74424	$\text{Ag} \leftrightarrow \text{NH}_4\text{I}$	1.3437
1.9171	$\text{AgBr} \leftrightarrow \text{NH}_4\text{Br}$	0.52161
2.6792	$\text{AgCl} \leftrightarrow \text{NH}_4\text{Cl}$	0.37323
1.6198	$\text{AgI} \leftrightarrow \text{NH}_4\text{I}$	0.61737
1.7663	$\text{BaSO}_4 \leftrightarrow (\text{NH}_4)_2\text{SO}_4$	0.56615
0.81583	$\text{Br} \leftrightarrow \text{NH}_4\text{Br}$	1.2257
1.9654	$\text{Cl} \leftrightarrow \text{NH}_4\text{Cl}$	0.50881
0.66277	$\text{Cl} \leftrightarrow \text{NH}_4\text{Cl}$	1.5088
0.68162	$\text{HCl} \leftrightarrow \text{NH}_4\text{Cl}$	1.4671
0.87553	$\text{I} \leftrightarrow \text{NH}_4\text{I}$	1.1422
14.410	$\text{MgNH}_4\text{PO}_4 \cdot 6\text{H}_2\text{O} \leftrightarrow \text{NH}_3$	0.069398
13.604	$\text{MgNH}_4\text{PO}_4 \cdot 6\text{H}_2\text{O} \leftrightarrow \text{NH}_4$	0.073506
9.4249	$\text{MgNH}_4\text{PO}_4 \cdot 6\text{H}_2\text{O} \leftrightarrow (\text{NH}_4)_2\text{O}$	0.10610
0.82244	$\text{N} \leftrightarrow \text{NH}_3$	1.2159
0.77648	$\text{N} \leftrightarrow \text{NH}_4$	1.2879
0.26185	$\text{N} \leftrightarrow \text{NH}_4\text{Cl}$	3.8189
0.17499	$\text{N} \leftrightarrow \text{NH}_4\text{NO}_3$	5.7145
0.53793	$\text{N} \leftrightarrow (\text{NH}_4)_2\text{O}$	1.8590
0.21200	$\text{N} \leftrightarrow (\text{NH}_4)_2\text{SO}_4$	4.7169
0.94412	$\text{NH}_3 \leftrightarrow \text{NH}_4$	1.0592
0.35449	$\text{NH}_3 \leftrightarrow (\text{NH}_4)_2\text{CO}_3$	2.8210
0.21543	$\text{NH}_3 \leftrightarrow \text{NH}_4\text{HCO}_3$	4.6419
0.21277	$\text{NH}_3 \leftrightarrow \text{NH}_4\text{NO}_3$	4.6998

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
AMMONIUM (continued)		
NH₄ = 18.03858		
0.65407	NH ₃ ↔ (NH ₄) ₂ O	1.5289
0.48596	NH ₃ ↔ NH ₄ OH	2.0578
0.25777	NH ₃ ↔ (NH ₄) ₂ SO ₄	3.8794
3.1409	NH ₄ Cl ↔ NH ₃	0.31838
2.9654	NH ₄ Cl ↔ NH ₄	0.33723
2.0543	NH ₄ Cl ↔ (NH ₄) ₂ O	0.48677
1.5263	NH ₄ Cl ↔ NH ₄ OH	0.65516
2.5020	NH ₄ OH ↔ N	0.39967
1.9428	NH ₄ OH ↔ NH ₄	0.51472
13.032	(NH ₄) ₂ PtCl ₆ ↔ NH ₃	0.076737
12.303	(NH ₄) ₂ PtCl ₆ ↔ NH ₄	0.081279
4.1490	(NH ₄) ₂ PtCl ₆ ↔ NH ₄ Cl	0.24102
2.7728	(NH ₄) ₂ PtCl ₆ ↔ NH ₄ NO ₃	0.36065
8.5235	(NH ₄) ₂ PtCl ₆ ↔ (NH ₄) ₂ O	0.11732
6.3328	(NH ₄) ₂ PtCl ₆ ↔ NH ₄ OH	0.15791
3.3592	(NH ₄) ₂ PtCl ₆ ↔ (NH ₄) ₂ SO ₄	0.29769
1.3473	(NH ₄) ₂ SO ₄ ↔ H ₂ SO ₄	0.74223
3.1710	N ₂ O ₅ ↔ NH ₃	0.31536
0.67470	N ₂ O ₅ ↔ NH ₄ NO ₃	1.4821
2.0740	N ₂ O ₅ ↔ (NH ₄) ₂ O	0.48215
5.7275	Pt ↔ NH ₃	0.17460
5.4074	Pt ↔ NH ₄	0.18493
1.8235	Pt ↔ NH ₄ Cl	0.54838
1.2187	Pt ↔ NH ₄ NO ₃	0.82058
3.7462	Pt ↔ (NH ₄) ₂ O	0.26694
2.7833	Pt ↔ NH ₄ OH	0.35928
1.4764	Pt ↔ (NH ₄) ₂ SO ₄	0.67733
2.3505	SO ₃ ↔ NH ₃	0.42545
0.60589	SO ₃ ↔ (NH ₄) ₂ SO ₄	1.6505
ANTIMONY		
Sb = 121.760		
0.36460	Sb ↔ KSbO · C ₄ H ₄ O ₆ · ½H ₂ O	2.7428
0.83535	Sb ↔ Sb ₂ O ₄	1.1971
0.75271	Sb ↔ Sb ₂ O ₅	1.3285
0.43646	Sb ₂ O ₃ ↔ KSbO · C ₄ H ₄ O ₆ · ½H ₂ O	2.2912
0.90106	Sb ₂ O ₃ ↔ Sb ₂ O ₅	1.1098
0.72184	Sb ₂ O ₃ ↔ Sb ₂ S ₃	1.3853
0.46042	Sb ₂ O ₄ ↔ KSbO · C ₄ H ₄ O ₆ · ½H ₂ O	2.1719
1.2628	Sb ₂ O ₄ ↔ Sb	0.79188
1.0549	Sb ₂ O ₄ ↔ Sb ₂ O ₃	0.94796
0.95053	Sb ₂ O ₄ ↔ Sb ₂ O ₅	1.0520
0.90523	Sb ₂ O ₄ ↔ Sb ₂ S ₃	1.1047
0.76147	Sb ₂ O ₄ ↔ Sb ₂ S ₅	1.3133
0.80110	Sb ₂ O ₅ ↔ Sb ₂ S ₃	1.2483
0.50862	Sb ₂ S ₃ ↔ KSbO · C ₄ H ₄ O ₆ · ½H ₂ O	1.9661
1.3950	Sb ₂ S ₃ ↔ Sb	0.71683
1.1653	Sb ₂ S ₃ ↔ Sb ₂ O ₃	0.85812
1.0500	Sb ₂ S ₃ ↔ Sb ₂ O ₅	0.95234
1.6584	Sb ₂ S ₅ ↔ Sb	0.60299

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
ARSENIC		
As = 74.9216		
1.3203	$\text{As}_2\text{O}_3 \leftrightarrow \text{As}$	0.75738
0.86079	$\text{As}_2\text{O}_3 \leftrightarrow \text{As}_2\text{O}_5$	1.1617
1.5339	$\text{As}_2\text{O}_5 \leftrightarrow \text{As}$	0.65195
1.6420	$\text{As}_2\text{S}_3 \leftrightarrow \text{As}$	0.60903
1.2436	$\text{As}_2\text{S}_3 \leftrightarrow \text{As}_2\text{O}_3$	0.80413
1.0705	$\text{As}_2\text{S}_3 \leftrightarrow \text{As}_2\text{O}_5$	0.93418
0.79324	$\text{As}_2\text{S}_5 \leftrightarrow \text{As}_2\text{S}_3$	1.2606
2.0699	$\text{As}_2\text{S}_5 \leftrightarrow \text{As}$	0.48311
1.5678	$\text{As}_2\text{S}_5 \leftrightarrow \text{As}_2\text{O}_3$	0.63787
1.3495	$\text{As}_2\text{S}_5 \leftrightarrow \text{As}_2\text{O}_5$	0.74103
4.6729	$\text{BaSO}_4 \leftrightarrow \text{As}$	0.21400
3.5392	$\text{BaSO}_4 \leftrightarrow \text{As}_2\text{O}_3$	0.28255
3.0465	$\text{BaSO}_4 \leftrightarrow \text{As}_2\text{O}_5$	0.32825
2.8482	$\text{BaSO}_4 \leftrightarrow \text{AsO}_3$	0.35110
2.5202	$\text{BaSO}_4 \leftrightarrow \text{AsO}_4$	0.39680
2.0719	$\text{Mg}_2\text{As}_2\text{O}_7 \leftrightarrow \text{As}$	0.48265
1.5692	$\text{Mg}_2\text{As}_2\text{O}_7 \leftrightarrow \text{As}_2\text{O}_3$	0.63726
1.3509	$\text{Mg}_2\text{As}_2\text{O}_7 \leftrightarrow \text{As}_2\text{O}_5$	0.74032
1.2629	$\text{Mg}_2\text{As}_2\text{O}_7 \leftrightarrow \text{AsO}_2$	0.79186
1.1174	$\text{Mg}_2\text{As}_2\text{O}_7 \leftrightarrow \text{AsO}_4$	0.89493
1.2619	$\text{Mg}_2\text{As}_2\text{O}_7 \leftrightarrow \text{As}_2\text{S}_3$	0.79249
2.5397	$\text{MgNH}_4\text{AsO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} \leftrightarrow \text{As}$	0.39374
1.9235	$\text{MgNH}_4\text{AsO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} \leftrightarrow \text{As}_2\text{O}_3$	0.51988
1.6558	$\text{MgNH}_4\text{AsO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} \leftrightarrow \text{As}_2\text{O}_5$	0.60395
1.5480	$\text{MgNH}_4\text{AsO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} \leftrightarrow \text{AsO}_3$	0.64600
1.3697	$\text{MgNH}_4\text{AsO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} \leftrightarrow \text{AsO}_4$	0.73008
BARIUM		
Ba = 137.34		
1.4369	$\text{BaCO}_3 \leftrightarrow \text{Ba}$	0.69592
0.94766	$\text{BaCO}_3 \leftrightarrow \text{BaCl}_2$	1.0552
0.76088	$\text{BaCO}_3 \leftrightarrow \text{Ba}(\text{HCO}_3)_2$	1.3143
1.2871	$\text{BaCO}_3 \leftrightarrow \text{BaO}$	0.77699
1.8446	$\text{BaCrO}_4 \leftrightarrow \text{Ba}$	0.54214
1.2165	$\text{BaCrO}_4 \leftrightarrow \text{BaCl}_2$	0.82205
1.2838	$\text{BaCrO}_4 \leftrightarrow \text{BaCO}_3$	0.77902
1.6521	$\text{BaCrO}_4 \leftrightarrow \text{BaO}$	0.60530
2.0345	$\text{BaSiF}_6 \leftrightarrow \text{Ba}$	0.49152
1.5936	$\text{BaSiF}_6 \leftrightarrow \text{BaF}_2$	0.62751
1.8222	$\text{BaSiF}_6 \leftrightarrow \text{BaO}$	0.54878
1.6994	$\text{BaSO}_4 \leftrightarrow \text{Ba}$	0.58843
1.1208	$\text{BaSO}_4 \leftrightarrow \text{BaCl}_2$	0.89224
0.95546	$\text{BaSO}_4 \leftrightarrow \text{BaCl}_2 \cdot 2\text{H}_2\text{O}$	1.0466
1.1827	$\text{BaSO}_4 \leftrightarrow \text{BaCO}_3$	0.84554
0.89308	$\text{BaSO}_4 \leftrightarrow \text{Ba}(\text{NO}_3)_2$	1.1197
1.5221	$\text{BaSO}_4 \leftrightarrow \text{BaO}$	0.65698
1.3783	$\text{BaSO}_4 \leftrightarrow \text{BaO}_2$	0.72554
1.3778	$\text{BaSO}_4 \leftrightarrow \text{BaS}$	0.72579
0.28701	$\text{CO}_2 \leftrightarrow \text{BaO}$	3.4842
0.22300	$\text{CO}_2 \leftrightarrow \text{BaCO}_3$	4.4842

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
BERYLLIUM		
Be = 9.0122		
8.8678	$\text{BeCl}_2 \leftrightarrow \text{Be}$	0.11277
2.7753	$\text{BeO} \leftrightarrow \text{Be}$	0.36033
0.31296	$\text{BeO} \leftrightarrow \text{BeCl}_2$	3.1953
0.14119	$\text{BeO} \leftrightarrow \text{BeSO}_4 \cdot 4\text{H}_2\text{O}$	7.0825
BISMUTH		
Bi = 208.980		
0.89699	$\text{Bi} \leftrightarrow \text{Bi}_2\text{O}_3$	1.1148
1.6648	$\text{BiAsO}_4 \leftrightarrow \text{Bi}$	0.60069
1.4933	$\text{BiAsO}_4 \leftrightarrow \text{Bi}_2\text{O}_4$	0.66968
0.48030	$\text{Bi}_2\text{O}_3 \leftrightarrow \text{Bi}(\text{NO}_3)_3 \cdot 5\text{H}_2\text{O}$	2.0820
0.81183	$\text{Bi}_2\text{O}_3 \leftrightarrow \text{BiONO}_3$	1.2318
1.2462	$\text{BiOCl} \leftrightarrow \text{Bi}$	0.80244
0.53689	$\text{BiOCl} \leftrightarrow \text{Bi}(\text{NO}_3)_3 \cdot 5\text{H}_2\text{O}$	1.8626
1.1178	$\text{BiOCl} \leftrightarrow \text{Bi}_2\text{O}_3$	0.89460
0.90748	$\text{BiOCl} \leftrightarrow \text{BiONO}_3$	1.1019
1.2301	$\text{Bi}_2\text{S}_3 \leftrightarrow \text{Bi}$	0.81291
1.1034	$\text{Bi}_2\text{S}_3 \leftrightarrow \text{Bi}_2\text{O}_3$	0.90627
BORON		
B = 10.81		
3.2199	$\text{B}_2\text{O}_3 \leftrightarrow \text{B}$	0.31057
0.81317	$\text{B}_2\text{O}_3 \leftrightarrow \text{BO}_2$	1.2298
0.59193	$\text{B}_2\text{O}_3 \leftrightarrow \text{BO}_3$	1.6894
0.89693	$\text{B}_2\text{O}_3 \leftrightarrow \text{B}_4\text{O}_7$	1.1149
0.56298	$\text{B}_2\text{O}_3 \leftrightarrow \text{H}_3\text{BO}_3$	1.7763
0.36510	$\text{B}_2\text{O}_3 \leftrightarrow \text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$	2.7389
6.4005	$\text{B}_4\text{C} \leftrightarrow \text{C}$	0.15624
11.646	$\text{KBF}_4 \leftrightarrow \text{B}$	0.085863
3.6171	$\text{KBF}_4 \leftrightarrow \text{B}_2\text{O}_3$	0.27647
2.0363	$\text{KBF}_4 \leftrightarrow \text{H}_3\text{BO}_3$	0.49108
1.3206	$\text{KBF}_4 \leftrightarrow \text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$	0.75723
BROMINE		
Br = 79.90		
1.3499	$\text{Ag} \leftrightarrow \text{Br}$	0.74079
0.84333	$\text{Ag} \leftrightarrow \text{BrO}_3$	1.1858
1.3331	$\text{Ag} \leftrightarrow \text{HBr}$	0.75013
2.3499	$\text{AgBr} \leftrightarrow \text{Br}$	0.42555
1.4681	$\text{AgBr} \leftrightarrow \text{BrO}_3$	0.68117
2.3206	$\text{AgBr} \leftrightarrow \text{HBr}$	0.43091
0.55756	$\text{Br} \leftrightarrow \text{AgCl}$	1.7935
9.9892	$\text{Br} \leftrightarrow \text{O}$	0.10010
1.1858	$\text{BrO}_3 \leftrightarrow \text{Ag}$	0.84333
CADMIUM		
Cd = 112.40		
0.61317	$\text{Cd} \leftrightarrow \text{CdCl}_2$	1.6309
0.47545	$\text{Cd} \leftrightarrow \text{Cd}(\text{NO}_3)_2$	2.1033
1.1423	$\text{CdO} \leftrightarrow \text{Cd}$	0.87539

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
CADMIUM (continued)		
Cd = 112.40		
0.70045	$\text{CdO} \leftrightarrow \text{CdCl}_2$	1.4276
0.54312	$\text{CdO} \leftrightarrow \text{Cd}(\text{NO}_3)_2$	1.8412
1.2852	$\text{CdS} \leftrightarrow \text{Cd}$	0.77807
0.78806	$\text{CdS} \leftrightarrow \text{CdCl}_2$	1.2689
0.61106	$\text{CdS} \leftrightarrow \text{Cd}(\text{NO}_3)_2$	1.6365
1.1251	$\text{CdS} \leftrightarrow \text{CdO}$	0.88883
0.69298	$\text{CdS} \leftrightarrow \text{CdSO}_4$	1.4430
1.8546	$\text{CdSO}_4 \leftrightarrow \text{Cd}$	0.53919
1.1372	$\text{CdSO}_4 \leftrightarrow \text{CdCl}_2$	0.87935
0.88177	$\text{CdSO}_4 \leftrightarrow \text{Cd}(\text{NO}_3)_2$	1.1341
1.6235	$\text{CdSO}_4 \leftrightarrow \text{CdO}$	0.61595
CALCIUM		
Ca = 40.08		
3.2352	$\text{BaSO}_4 \leftrightarrow \text{CaS}$	0.30910
1.7144	$\text{BaSO}_4 \leftrightarrow \text{CaSO}_4$	0.58329
1.3556	$\text{BaSO}_4 \leftrightarrow \text{CaSO}_4 \cdot 2\text{H}_2\text{O}$	0.73766
0.36111	$\text{Ca} \leftrightarrow \text{CaCl}_2$	2.7692
0.51334	$\text{Ca} \leftrightarrow \text{CaF}_2$	1.9480
0.71471	$\text{Ca} \leftrightarrow \text{CaO}$	1.3992
2.4973	$\text{CaCO}_3 \leftrightarrow \text{Ca}$	0.40044
0.90179	$\text{CaCO}_3 \leftrightarrow \text{CaCl}_2$	1.1089
0.61742	$\text{CaCO}_3 \leftrightarrow \text{Ca}(\text{HCO}_3)_2$	1.6196
1.7848	$\text{CaCO} \leftrightarrow \text{CaO}$	0.56029
0.73520	$\text{CaCO}_3 \leftrightarrow \text{CaSO}_4$	1.3602
0.58134	$\text{CaCO}_3 \leftrightarrow \text{CaSO}_4 \cdot 2\text{H}_2\text{O}$	1.7202
1.3726	$\text{CaCO}_3 \leftrightarrow \text{HCl}$	0.72856
0.50526	$\text{CaO} \leftrightarrow \text{CaCl}_2$	1.9792
0.71825	$\text{CaO} \leftrightarrow \text{CaF}_2$	1.3923
0.34593	$\text{CaO} \leftrightarrow \text{Ca}(\text{HCO}_3)_2$	2.8907
0.75685	$\text{CaO} \leftrightarrow \text{Ca}(\text{OH})_2$	1.3213
0.41192	$\text{CaO} \leftrightarrow \text{CaSO}_4$	2.4276
0.32572	$\text{CaO} \leftrightarrow \text{CaSO}_4 \cdot 2\text{H}_2\text{O}$	3.0701
2.5797	$\text{Ca}_3(\text{PO}_4)_2 \leftrightarrow \text{Ca}$	0.38765
1.8437	$\text{Ca}_3(\text{PO}_4)_2 \leftrightarrow \text{CaO}$	0.54239
0.75946	$\text{Ca}_3(\text{PO}_4)_2 \leftrightarrow \text{CaSO}_4$	1.3167
3.3967	$\text{CaSO}_4 \leftrightarrow \text{Ca}$	0.29440
1.2266	$\text{CaSO}_4 \leftrightarrow \text{CaCl}_2$	0.81526
1.3602	$\text{CaSO}_4 \leftrightarrow \text{CaCO}_3$	0.73520
1.7437	$\text{CaSO}_4 \leftrightarrow \text{CaF}_2$	0.57351
2.4276	$\text{CaSO}_4 \leftrightarrow \text{CaO}$	0.41192
1.7691	$\text{Cl} \leftrightarrow \text{Ca}$	0.56526
0.63885	$\text{Cl} \leftrightarrow \text{CaCl}_2$	1.5653
1.2644	$\text{Cl} \leftrightarrow \text{CaO}$	0.79089
0.78479	$\text{CO}_2 \leftrightarrow \text{CaO}$	1.2742
0.43970	$\text{CO}_2 \leftrightarrow \text{CaCO}_3$	2.2743
0.77989	$\text{Mg}_2\text{As}_2\text{O}_7 \leftrightarrow \text{Ca}_3(\text{AsO}_4)_2$	1.2822
0.71883	$\text{MgO} \leftrightarrow \text{CaO}$	1.3912
0.71755	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{Ca}_3(\text{PO}_4)_2$	1.3936
12.098	$(\text{NH}_4)_3\text{PO}_4 \cdot 12\text{MoO}_3 \leftrightarrow \text{Ca}_3(\text{PO}_4)_2$	0.082657

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
CALCIUM (continued)		
Ca = 40.08		
0.65824	$N_2O_5 \leftrightarrow Ca(NO_3)_2$	1.5192
0.45761	$P_2O_5 \leftrightarrow Ca_3(PO_4)_2$	2.1853
1.4277	$SO_3 \leftrightarrow CaO$	0.70044
0.58809	$SO_3 \leftrightarrow CaSO_4$	1.7004
0.46502	$SO_3 \leftrightarrow CaSO_4 \cdot 2H_2O$	2.1505
0.80523	$WO_3 \leftrightarrow CaWO_4$	1.2419
CARBON		
C = 12.011		
3.9913	$Ag \leftrightarrow HCN$	0.25054
1.6565	$Ag \leftrightarrow KCN$	0.60369
4.9541	$AgCN \leftrightarrow HCN$	0.20185
2.0561	$AgCN \leftrightarrow KCN$	0.48637
16.431	$BaCO_3 \leftrightarrow C$	0.060861
4.4842	$BaCO_3 \leftrightarrow CO_2$	0.22301
3.2887	$BaCO_3 \leftrightarrow CO_3$	0.30407
3.4842	$BaO \leftrightarrow CO_2$	0.28701
1.7421	$BaO \leftrightarrow CO_2, \text{ bicarbonate}$	0.57402
0.19432	$CN \leftrightarrow AgCN$	5.1461
0.24120	$CN \leftrightarrow Ag$	4.1460
0.35000	$SCN \leftrightarrow AgSCN$	2.8572
0.47757	$SCN \leftrightarrow CuSCN$	2.0939
0.24885	$SCN \leftrightarrow BaSO_4$	4.0185
1.2742	$CaO \leftrightarrow CO_2$	0.78479
0.63712	$CaO \leftrightarrow CO_2, \text{ bicarbonate}$	1.5696
0.33936	$CO_2 \leftrightarrow Ba(HCO_3)_2$	2.9467
3.6641	$CO_2 \leftrightarrow C$	0.27291
0.43970	$CO_2 \leftrightarrow CaCO_3$	2.2743
0.54297	$CO_2 \leftrightarrow Ca(HCO_3)_2$	1.8417
0.73341	$CO_2 \leftrightarrow CO_3$	1.3635
0.13507	$CO_2 \leftrightarrow Cs_2CO_3$	7.4033
0.22695	$CO_2 \leftrightarrow CsHCO_3$	4.4063
0.37986	$CO_2 \leftrightarrow FeCO_3$	2.6326
0.49483	$CO_2 \leftrightarrow Fe(HCO_3)_2$	2.0209
0.31843	$CO_2 \leftrightarrow K_2CO_3$	3.1404
0.43957	$CO_2 \leftrightarrow KHCO_3$	2.2749
0.46718	$CO_2 \leftrightarrow K_2O$	2.1405
0.59564	$CO_2 \leftrightarrow Li_2CO_3$	1.6789
0.64762	$CO_2 \leftrightarrow LiHCO_3$	1.5441
1.4730	$CO_2 \leftrightarrow Li_2O$	0.67887
0.52193	$CO_2 \leftrightarrow MgCO_3$	1.9159
0.60143	$CO_2 \leftrightarrow Mg(HCO_3)_2$	1.6627
1.0918	$CO_2 \leftrightarrow MgO$	0.91595
0.38286	$CO_2 \leftrightarrow MnCO_3$	2.6119
0.49737	$CO_2 \leftrightarrow Mn(HCO_3)_2$	2.0106
0.62041	$CO_2 \leftrightarrow MnO$	1.6118
0.41523	$CO_2 \leftrightarrow Na_2CO_3$	2.4083
0.52388	$CO_2 \leftrightarrow NaHCO_3$	1.9088
0.71008	$CO_2 \leftrightarrow Na_2O$	1.4083
0.45802	$CO_2 \leftrightarrow (NH_4)_2CO_3$	2.1833

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
CARBON (continued)		
C = 12.011		
0.55669	$\text{CO}_2 \leftrightarrow \text{NH}_4\text{HCO}_3$	1.7963
0.16471	$\text{CO}_2 \leftrightarrow \text{PbCO}_3$	6.0713
0.19055	$\text{CO}_2 \leftrightarrow \text{Rb}_2\text{CO}_3$	5.2477
0.30043	$\text{CO}_2 \leftrightarrow \text{RbHCO}_3$	3.3286
0.23542	$\text{CO}_2 \leftrightarrow \text{Rb}_2\text{O}$	4.2477
0.29811	$\text{CO}_2 \leftrightarrow \text{SrCO}_3$	3.3545
0.41984	$\text{CO}_2 \leftrightarrow \text{Sr}(\text{HCO}_3)_2$	2.3818
0.42474	$\text{CO}_2 \leftrightarrow \text{SrO}$	2.3545
CERIUM		
Ce = 140.12		
0.36100	$\text{Ce} \leftrightarrow \text{Ce}(\text{NO}_3)_4$	2.7701
0.24746	$\text{Ce} \leftrightarrow \text{Ce}(\text{NO}_3)_4 \cdot 2\text{NH}_4\text{NO}_3 \cdot \text{H}_2\text{O}$	4.0411
0.81408	$\text{Ce} \leftrightarrow \text{CeO}_2$	1.2284
0.85377	$\text{Ce} \leftrightarrow \text{Ce}_2\text{O}_3$	1.1713
0.49302	$\text{Ce} \leftrightarrow \text{Ce}_2(\text{SO}_4)_3$	2.0283
1.0527	$\text{Ce}_2(\text{C}_2\text{O}_4)_3 \cdot 3\text{H}_2\text{O} \leftrightarrow \text{Ce}_2(\text{SO}_4)_3$	0.94998
2.1351	$\text{Ce}_2(\text{C}_2\text{O}_4)_3 \cdot 3\text{H}_2\text{O} \leftrightarrow \text{Ce}$	0.46835
0.44345	$\text{CeO}_2 \leftrightarrow \text{Ce}(\text{NO}_3)_4$	2.2551
0.30397	$\text{CeO}_2 \leftrightarrow \text{Ce}(\text{NO}_3)_4 \cdot 2\text{NH}_4\text{NO}_3 \cdot \text{H}_2\text{O}$	3.2898
0.42284	$\text{Ce}_2\text{O}_3 \leftrightarrow \text{Ce}(\text{NO}_3)_4$	2.3650
0.28984	$\text{Ce}_2\text{O}_3 \leftrightarrow \text{Ce}(\text{NO}_3)_4 \cdot 2\text{NH}_4\text{NO}_3 \cdot \text{H}_2\text{O}$	3.4502
0.95352	$\text{Ce}_2\text{O}_3 \leftrightarrow \text{CeO}_2$	1.0487
0.57746	$\text{Ce}_2\text{O}_3 \leftrightarrow \text{Ce}_2(\text{SO}_4)_3$	1.7317
CESIUM		
Cs = 137.905		
0.85127	$\text{AgCl} \leftrightarrow \text{CsCl}$	1.1747
0.26675	$\text{Cl} \leftrightarrow \text{Cs}$	3.7489
0.21058	$\text{Cl} \leftrightarrow \text{CsCl}$	4.7488
0.78944	$\text{Cs} \leftrightarrow \text{CsCl}$	1.2667
0.57200	$\text{Cs} \leftrightarrow \text{CsClO}_4$	1.7483
0.81585	$\text{Cs} \leftrightarrow \text{Cs}_2\text{CO}_3$	1.2257
0.94326	$\text{Cs} \leftrightarrow \text{Cs}_2\text{O}$	1.0602
0.83693	$\text{Cs}_2\text{O} \leftrightarrow \text{CsCl}$	1.1948
0.77876	$\text{Cs}_2\text{O} \leftrightarrow \text{Cs}_2\text{SO}_4$	1.2841
2.5341	$\text{Cs}_2\text{PtCl}_6 \leftrightarrow \text{Cs}$	0.39461
2.0005	$\text{Cs}_2\text{PtCl}_6 \leftrightarrow \text{CsCl}$	0.49987
2.0675	$\text{Cs}_2\text{PtCl}_6 \leftrightarrow \text{Cs}_2\text{CO}_3$	0.48369
2.3903	$\text{Cs}_2\text{PtCl}_6 \leftrightarrow \text{Cs}_2\text{O}$	0.41835
1.3613	$\text{Cs}_2\text{SO}_4 \leftrightarrow \text{Cs}$	0.73457
1.0747	$\text{Cs}_2\text{SO}_4 \leftrightarrow \text{CsCl}$	0.93050
1.1106	$\text{Cs}_2\text{SO}_4 \leftrightarrow \text{Cs}_2\text{CO}_3$	0.90038
0.28410	$\text{SO}_3 \leftrightarrow \text{Cs}_2\text{O}$	3.5199
CHLORINE		
Cl = 35.453		
3.0426	$\text{Ag} \leftrightarrow \text{Cl}$	0.32866
2.9585	$\text{Ag} \leftrightarrow \text{HCl}$	0.33801
4.0425	$\text{AgCl} \leftrightarrow \text{Cl}$	0.24737

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
CHLORINE (continued)		
Cl = 35.453		
3.9308	$\text{AgCl} \leftrightarrow \text{HCl}$	0.25440
3.5728	$\text{BaCrO}_4 \leftrightarrow \text{Cl}$	0.27990
0.56526	$\text{Ca} \leftrightarrow \text{Cl}$	1.7691
0.97235	$\text{Cl} \leftrightarrow \text{HCl}$	1.0284
0.58227	$\text{ClO}_3 \leftrightarrow \text{AgCl}$	1.7174
1.1193	$\text{ClO}_3 \leftrightarrow \text{KCl}$	0.89340
1.4279	$\text{ClO}_3 \leftrightarrow \text{NaCl}$	0.70033
0.69391	$\text{ClO}_4 \leftrightarrow \text{AgCl}$	1.4411
1.3339	$\text{ClO}_4 \leftrightarrow \text{KCl}$	0.74967
1.7017	$\text{ClO}_4 \leftrightarrow \text{NaCl}$	0.58766
1.1029	$\text{K} \leftrightarrow \text{Cl}$	0.90668
2.1029	$\text{KCl} \leftrightarrow \text{Cl}$	0.47553
0.19572	$\text{Li} \leftrightarrow \text{Cl}$	5.1092
0.34288	$\text{Mg} \leftrightarrow \text{Cl}$	2.9165
1.3429	$\text{MgCl}_2 \leftrightarrow \text{Cl}$	0.74467
1.2261	$\text{MnO}_2 \leftrightarrow \text{Cl}$	0.81560
0.64846	$\text{Na} \leftrightarrow \text{Cl}$	1.5421
1.6485	$\text{NaCl} \leftrightarrow \text{Cl}$	0.60663
0.50881	$\text{NH}_4 \leftrightarrow \text{Cl}$	1.9654
1.4671	$\text{NH}_4\text{Cl} \leftrightarrow \text{HCl}$	0.68162
1.8121	$(\text{NH}_4)_2\text{SO}_4 \leftrightarrow \text{HCl}$	0.55185
4.5580	$\text{PbCrO}_4 \leftrightarrow \text{Cl}$	0.21939
CHROMIUM		
Cr = 51.996		
4.8721	$\text{BaCrO}_4 \leftrightarrow \text{Cr}$	0.20525
3.3335	$\text{BaCrO}_4 \leftrightarrow \text{Cr}_2\text{O}_3$	0.29998
2.5335	$\text{BaCrO}_4 \leftrightarrow \text{CrO}_3$	0.39472
2.1841	$\text{BaCrO}_4 \leftrightarrow \text{CrO}_4$	0.45786
0.70718	$\text{BaCrO}_4 \leftrightarrow \text{Cr}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$	1.4141
7.4935	$\text{Cr}_3\text{C}_2 \leftrightarrow \text{C}$	0.13345
1.9231	$\text{CrO}_3 \leftrightarrow \text{Cr}$	0.51999
1.4616	$\text{Cr}_2\text{O}_3 \leftrightarrow \text{Cr}$	0.68420
0.76000	$\text{Cr}_2\text{O}_3 \leftrightarrow \text{CrO}_3$	1.3158
0.65519	$\text{Cr}_2\text{O}_3 \leftrightarrow \text{CrO}_4$	1.5263
3.7349	$\text{K}_2\text{CrO}_4 \leftrightarrow \text{Cr}$	0.26774
1.9421	$\text{K}_2\text{CrO}_4 \leftrightarrow \text{CrO}_3$	0.51490
1.4710	$\text{K}_2\text{Cr}_2\text{O}_7 \leftrightarrow \text{CrO}_3$	0.67979
6.2155	$\text{PbCrO}_4 \leftrightarrow \text{Cr}$	0.16089
4.2527	$\text{PbCrO}_4 \leftrightarrow \text{Cr}_2\text{O}_3$	0.23515
3.2320	$\text{PbCrO}_4 \leftrightarrow \text{CrO}_3$	0.30941
2.7863	$\text{PbCrO}_4 \leftrightarrow \text{CrO}_4$	0.35890
0.90217	$\text{PbCrO}_4 \leftrightarrow \text{Cr}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$	1.1084
1.6642	$\text{PbCrO}_4 \leftrightarrow \text{K}_2\text{CrO}_4$	0.60090
2.1971	$\text{PbCrO}_4 \leftrightarrow \text{K}_2\text{Cr}_2\text{O}_7$	0.45515
COBALT		
Co = 58.9332		
0.20249	$\text{Co} \leftrightarrow \text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$	4.9385
0.78648	$\text{Co} \leftrightarrow \text{CoO}$	1.2715

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
COBALT (continued)		
Co = 58.9332		
0.20965	$\text{Co} \leftrightarrow \text{CoSO}_4 \cdot 7\text{H}_2\text{O}$	4.7698
7.6743	$\text{K}_3[\text{Co}(\text{NO}_2)_6] \leftrightarrow \text{Co}$	0.13030
6.0357	$\text{K}_3[\text{Co}(\text{NO}_2)_6] \leftrightarrow \text{CoO}$	0.16568
1.3620	$\text{Co}_3\text{O}_4 \leftrightarrow \text{Co}$	0.73422
1.0712	$\text{Co}_3\text{O}_4 \leftrightarrow \text{CoO}$	0.93355
2.4758	$\text{Co}_2\text{P}_2\text{O}_7 \leftrightarrow \text{Co}$	0.40391
1.9471	$\text{Co}_2\text{P}_2\text{O}_7 \leftrightarrow \text{CoO}$	0.51357
3.2233	$\text{CoNH}_4\text{PO}_4 \cdot \text{H}_2\text{O} \leftrightarrow \text{Co}$	0.31024
2.5351	$\text{CoNH}_4\text{PO}_4 \cdot \text{H}_2\text{O} \leftrightarrow \text{CoO}$	0.39447
2.6299	$\text{CoSO}_4 \leftrightarrow \text{Co}$	0.38024
2.0684	$\text{CoSO}_4 \leftrightarrow \text{CoO}$	0.48347
3.7514	$\text{CoSO}_4 \cdot 7\text{H}_2\text{O} \leftrightarrow \text{CoO}$	0.26657
7.0656	$(\text{CoSO}_4)_2 \cdot (\text{K}_2\text{SO}_4)_3 \leftrightarrow \text{Co}$	0.14153
5.5569	$(\text{CoSO}_4)_2 \cdot (\text{K}_2\text{SO}_4)_3 \leftrightarrow \text{CoO}$	0.17996
COPPER		
Cu = 63.544		
0.25071	$\text{Cu} \leftrightarrow \text{Cu}_2\text{C}_2\text{H}_3\text{O}_2 \cdot (\text{AsO}_2)_3$	3.9887
0.79885	$\text{Cu} \leftrightarrow \text{CuO}$	1.2518
0.25449	$\text{Cu} \leftrightarrow \text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	3.9295
1.9141	$\text{CuSCN} \leftrightarrow \text{Cu}$	0.52245
1.5291	$\text{CuSCN} \leftrightarrow \text{CuO}$	0.65400
0.31856	$\text{CuO} \leftrightarrow \text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	3.1391
1.1259	$\text{Cu}_2\text{O} \leftrightarrow \text{Cu}$	0.88817
1.2523	$\text{Cu}_2\text{S} \leftrightarrow \text{Cu}$	0.79854
1.0004	$\text{Cu}_2\text{S} \leftrightarrow \text{CuO}$	0.99961
1.1122	$\text{Cu}_2\text{S} \leftrightarrow \text{Cu}_2\text{O}$	0.89908
0.31869	$\text{Cu}_2\text{S} \leftrightarrow \text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	3.1379
0.91872	$\text{Mg}_2\text{As}_2\text{O}_7 \leftrightarrow \text{Cu}_2\text{C}_2\text{H}_3\text{O}_2(\text{AsO}_2)_3$	1.0885
ERBIUM		
Er = 167.26		
1.1435	$\text{Er}_2\text{O}_3 \leftrightarrow \text{Er}$	0.87452
FLUORINE		
F = 18.9984		
1.5936	$\text{BaSiF}_6 \leftrightarrow \text{BaF}_2$	0.62751
2.4513	$\text{BaSiF}_6 \leftrightarrow \text{F}$	0.40795
2.3277	$\text{BaSiF}_6 \leftrightarrow 6\text{HF}$	0.42960
1.9392	$\text{BaSiF}_6 \leftrightarrow \text{H}_2\text{SiF}_6$	0.51568
2.6847	$\text{BaSiF}_6 \leftrightarrow \text{SiF}_4$	0.37249
1.9666	$\text{BaSiF}_6 \leftrightarrow \text{SiF}_6$	0.50848
1.6256	$\text{CaF}_2 \leftrightarrow \text{H}_2\text{SiF}_6$	0.61516
1.6486	$\text{CaF}_2 \leftrightarrow \text{SiF}_6$	0.60658
3.5829	$\text{CaSO}_4 \leftrightarrow \text{F}$	0.27910
2.4024	$\text{CaSO}_4 \leftrightarrow \text{HF}$	0.29391
0.48666	$\text{F} \leftrightarrow \text{CaF}_2$	2.0548
0.51248	$\text{HF} \leftrightarrow \text{CaF}_2$	1.9513
1.2641	$\text{H}_2\text{SiF}_6 \leftrightarrow \text{F}$	0.79109
3.6011	$\text{H}_2\text{SiF}_6 \leftrightarrow 2\text{HF}$	0.27769

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
FLUORINE (continued)		
F = 18.9984		
1.2004	$\text{H}_2\text{SiF}_6 \leftrightarrow 6\text{HF}$	0.83308
1.3844	$\text{H}_2\text{SiF}_6 \leftrightarrow \text{SiF}_4$	0.72233
1.0141	$\text{H}_2\text{SiF}_6 \leftrightarrow \text{SiF}_6$	0.98605
2.0556	$\text{KF} \cdot \text{HF} \leftrightarrow 2\text{F}$	0.48647
1.9520	$\text{KF} \cdot \text{HF} \leftrightarrow 2\text{HF}$	0.51228
0.67218	$\text{KF} \cdot \text{HF} \leftrightarrow 2\text{KF}$	1.4877
0.41489	$\text{KF} \cdot \text{HF} \leftrightarrow 2(\text{KF} \cdot 2\text{H}_2\text{O})$	2.4103
1.9325	$\text{K}_2\text{SiF}_6 \leftrightarrow \text{F}$	0.51748
1.8351	$\text{K}_2\text{SiF}_6 \leftrightarrow 6\text{HF}$	0.54494
1.5288	$\text{K}_2\text{SiF}_6 \leftrightarrow \text{H}_2\text{SiF}_6$	0.65412
1.8957	$\text{K}_2\text{SiF}_6 \leftrightarrow 2\text{KF}$	0.52751
1.5504	$\text{K}_2\text{SiF}_6 \leftrightarrow \text{SiF}_6$	0.64500
1.9495	$\text{NH}_4\text{F} \leftrightarrow \text{F}$	0.51295
1.5013	$\text{NH}_4\text{F} \cdot \text{HF} \leftrightarrow 2\text{F}$	0.66611
1.4256	$\text{NH}_4\text{F} \cdot \text{HF} \leftrightarrow 2\text{HF}$	0.70145
0.49090	$\text{NH}_4\text{F} \cdot \text{HF} \leftrightarrow 2\text{KF}$	2.0371
0.30300	$\text{NH}_4\text{F} \cdot \text{HF} \leftrightarrow 2(\text{KF} \cdot 2\text{H}_2\text{O})$	3.3003
1.5629	$(\text{NH}_4)_2\text{SiF}_6 \leftrightarrow \text{F}$	0.63985
1.4841	$(\text{NH}_4)_2\text{SiF}_6 \leftrightarrow 6\text{HF}$	0.67381
1.2364	$(\text{NH}_4)_2\text{SiF}_6 \leftrightarrow \text{H}_2\text{SiF}_6$	0.80881
2.4050	$(\text{NH}_4)_2\text{SiF}_6 \leftrightarrow 2\text{NH}_4\text{F}$	0.41580
1.2539	$(\text{NH}_4)_2\text{SiF}_6 \leftrightarrow \text{SiF}_6$	0.79753
2.2101	$\text{NaF} \leftrightarrow \text{F}$	0.45246
1.6498	$\text{Na}_2\text{SiF}_6 \leftrightarrow \text{F}$	0.60614
1.5666	$\text{Na}_2\text{SiF}_6 \leftrightarrow 6\text{HF}$	0.63831
1.3052	$\text{Na}_3\text{SiF}_6 \leftrightarrow \text{H}_2\text{SiF}_6$	0.76619
2.2394	$\text{Na}_2\text{SiF}_6 \leftrightarrow 2\text{NaF}$	0.44654
1.3236	$\text{Na}_2\text{SiF}_6 \leftrightarrow \text{SiF}_6$	0.75550
GALLIUM		
Ga = 69.72		
1.3442	$\text{Ga}_2\text{O}_3 \leftrightarrow \text{Ga}$	0.74392
1.6898	$\text{Ga}_2\text{S}_3 \leftrightarrow \text{Ga}$	0.59178
GERMANIUM		
Ge = 72.59		
1.4408	$\text{GeO}_2 \leftrightarrow \text{Ge}$	0.69404
3.6476	$\text{K}_2\text{GeF}_6 \leftrightarrow \text{Ge}$	0.27415
GOLD		
Au = 196.967		
0.64936	$\text{Au} \leftrightarrow \text{AuCl}_3$	1.5400
0.47826	$\text{Au} \leftrightarrow \text{HAuCl}_4 \cdot 4\text{H}_2\text{O}$	2.0909
0.54995	$\text{Au} \leftrightarrow \text{KAu}(\text{CN})_4 \cdot \text{H}_2\text{O}$	1.8183
HYDROGEN		
H = 1.0079		
8.9365	$\text{H}_2\text{O} \leftrightarrow \text{H}$	0.11190
7.9364	$\text{O} \leftrightarrow \text{H}$	0.12600
0.35607	$\text{HSCN} \leftrightarrow \text{AgSCN}$	2.8084

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
HYDROGEN (continued)		
H = 1.0079		
0.48586	HSCN \leftrightarrow CuSCN	2.0582
0.25317	HSCN \leftrightarrow BaSO ₄	3.9499
INDIUM		
In = 114.82		
1.2090	In ₂ O ₃ \leftrightarrow In	0.82711
1.4189	In ₂ S ₃ \leftrightarrow In	0.70476
IODINE		
I = 126.904		
0.84333	Ag \leftrightarrow HI	1.1858
0.85004	Ag \leftrightarrow I	1.1764
1.1294	AgCl \leftrightarrow I	0.88543
1.8354	AgI \leftrightarrow HI	0.54483
1.8500	AgI \leftrightarrow I	0.54053
1.3423	AgI \leftrightarrow IO ₃	0.74498
1.2298	AgI \leftrightarrow IO ₄	0.81314
1.4066	AgI \leftrightarrow I ₂ O ₃	0.71091
1.2836	AgI \leftrightarrow I ₂ O ₇	0.77904
0.41592	Pd \leftrightarrow HI	2.4043
0.41921	Pd \leftrightarrow I	2.3854
1.4081	PdI ₂ \leftrightarrow HI	0.71020
1.4192	PdI ₂ \leftrightarrow I	0.70462
1.0297	PdI ₂ \leftrightarrow IO ₃	0.97113
0.94343	PdI ₂ \leftrightarrow IO ₄	1.0600
1.0791	PdI ₂ \leftrightarrow I ₂ O ₃	0.92671
0.98472	PdI ₂ \leftrightarrow I ₂ O ₇	1.0155
2.5899	TlI \leftrightarrow HI	0.38612
2.6105	TlI \leftrightarrow I	0.38307
1.8941	TlI \leftrightarrow IO ₃	0.52797
1.7353	TlI \leftrightarrow IO ₄	0.57627
1.9848	TlI \leftrightarrow I ₂ O ₃	0.50383
1.8112	TlI \leftrightarrow I ₂ O ₇	0.55211
IRON		
Fe = 55.845		
2.2598	Ag \leftrightarrow Fe ₇ (CN) ₁₈ (Prussian blue)	0.44252
0.54503	CN \leftrightarrow Fe ₇ (CN) ₁₈	1.8347
0.61256	CO ₂ \leftrightarrow FeO	1.6325
0.37986	CO ₂ \leftrightarrow FeCO ₃	2.6326
0.49483	CO ₂ \leftrightarrow Fe(HCO ₃) ₂	2.0209
0.31396	Fe \leftrightarrow Fe(HCO ₃) ₂	3.1851
0.44061	Fe \leftrightarrow FeCl ₂	2.2696
0.77730	Fe \leftrightarrow FeO	1.2865
0.69943	Fe \leftrightarrow Fe ₂ O ₃	1.4297
0.72359	Fe \leftrightarrow Fe ₃ O ₄	1.3820
0.36763	Fe \leftrightarrow FeSO ₄	2.7201
0.20087	Fe \leftrightarrow FeSO ₄ · 7H ₂ O	4.9782
0.14242	Fe \leftrightarrow FeSO ₄ · (NH ₄) ₂ SO ₄ · 6H ₂ O	7.0217
0.62011	FeO \leftrightarrow FeCO ₃	1.6126

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
IRON (continued)		
Fe = 55.845		
0.40390	$\text{FeO} \leftrightarrow \text{Fe}(\text{HCO}_3)_2$	2.4759
0.89982	$\text{FeO} \leftrightarrow \text{Fe}_2\text{O}_3$	1.1113
0.49223	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{FeCl}_2$	2.0316
0.68915	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{FeCO}_3$	1.4511
0.44887	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{Fe}(\text{HCO}_3)_2$	2.2278
0.33422	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{Fe}(\text{HCO}_3)_3$	2.9920
1.1113	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{FeO}$	0.89982
1.0345	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{Fe}_3\text{O}_4$	0.96662
0.52941	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{FePO}_4$	1.8889
0.52561	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{FeSO}_4$	1.9026
0.28719	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{FeSO}_4 \cdot 7\text{H}_2\text{O}$	3.4820
0.20361	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{FeSO}_4 \cdot (\text{NH}_4)_2\text{SO}_4 \cdot 6\text{H}_2\text{O}$	4.9113
0.39934	$\text{Fe}_2\text{O}_3 \leftrightarrow \text{Fe}_2(\text{SO}_4)_3$	2.5041
2.7006	$\text{FePO}_4 \leftrightarrow \text{Fe}$	0.37029
2.0992	$\text{FePO}_4 \leftrightarrow \text{FeO}$	0.47637
1.5741	$\text{FeS} \leftrightarrow \text{Fe}$	0.63527
1.2236	$\text{FeS} \leftrightarrow \text{FeO}$	0.81726
1.1010	$\text{FeS} \leftrightarrow \text{Fe}_2\text{O}_3$	0.90825
0.79699	$\text{Mg}_2\text{As}_2\text{O}_7 \leftrightarrow \text{FeAsO}_4$	1.2547
1.1144	$\text{SO}_3 \leftrightarrow \text{FeO}$	0.89738
0.52704	$\text{SO}_3 \leftrightarrow \text{FeSO}_4$	1.8974
LANTHANUM		
La = 138.91		
1.1728	$\text{La}_2\text{O}_3 \leftrightarrow \text{La}$	0.85268
LEAD		
Pb = 207.2		
0.77541	$\text{Pb} \leftrightarrow \text{PbCO}_3$	1.2896
0.80141	$\text{Pb} \leftrightarrow (\text{PbCO}_3)_2 \cdot \text{Pb}(\text{OH})_2$	1.2478
0.85901	$\text{Pb} \leftrightarrow \text{Pb}(\text{OH})_2$	1.1641
0.92831	$\text{Pb} \leftrightarrow \text{PbO}$	1.0772
1.3422	$\text{PbCl}_2 \leftrightarrow \text{Pb}$	0.74502
1.2460	$\text{PbCl}_2 \leftrightarrow \text{PbO}$	0.80255
1.5598	$\text{PbCrO}_4 \leftrightarrow \text{Pb}$	0.64110
0.85198	$\text{PbCrO}_4 \leftrightarrow \text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 3\text{H}_2\text{O}$	1.1737
1.2501	$\text{PbCrO}_4 \leftrightarrow (\text{PbCO}_3)_2 \cdot \text{Pb}(\text{OH})_2$	0.79997
1.4480	$\text{PbCrO}_4 \leftrightarrow \text{PbO}$	0.69061
1.4142	$\text{PbCrO}_4 \leftrightarrow \text{Pb}_3\text{O}_4$	0.70711
1.0657	$\text{PbCrO}_4 \leftrightarrow \text{PbSO}_4$	0.93833
0.83529	$\text{PbO} \leftrightarrow \text{PbCO}_3$	1.1972
0.67388	$\text{PbO} \leftrightarrow \text{Pb}(\text{NO}_3)_2$	1.4839
0.93311	$\text{PbO} \leftrightarrow \text{PbO}_2$	1.0717
1.1544	$\text{PbO}_2 \leftrightarrow \text{Pb}$	0.86622
0.72219	$\text{PbO}_2 \leftrightarrow \text{Pb}(\text{NO}_3)_2$	1.3847
1.1547	$\text{PbS} \leftrightarrow \text{Pb}$	0.86600
1.0720	$\text{PbS} \leftrightarrow \text{PbO}$	0.93287
0.78895	$\text{PbS} \leftrightarrow \text{PbSO}_4$	1.2675
1.2993	$\text{PbSO}_4 \leftrightarrow \text{BaSO}_4$	0.76966
1.4636	$\text{PbSO}_4 \leftrightarrow \text{Pb}$	0.68323

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
LEAD (continued)		
Pb = 207.2		
0.79944	$\text{PbSO}_4 \leftrightarrow \text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 3\text{H}_2\text{O}$	1.2509
1.1349	$\text{PbSO}_4 \leftrightarrow \text{PbCO}_3$	0.88112
1.1730	$\text{PbSO}_4 \leftrightarrow (\text{PbCO}_3)_2 \cdot \text{Pb}(\text{OH})_2$	0.85254
0.91561	$\text{PbSO}_4 \leftrightarrow \text{Pb}(\text{NO}_3)_2$	1.0922
1.3587	$\text{PbSO}_4 \leftrightarrow \text{PbO}$	0.73599
1.2678	$\text{PbSO}_4 \leftrightarrow \text{PbO}_2$	0.78875
1.3270	$\text{PbSO}_4 \leftrightarrow \text{Pb}_3\text{O}_4$	0.75358
LITHIUM		
Li = 6.941		
0.59562	$\text{CO}_2 \leftrightarrow \text{Li}_2\text{CO}_3$	1.6789
0.64759	$\text{CO}_2 \leftrightarrow \text{LiHCO}_3$	1.5442
1.4729	$\text{CO}_2 \leftrightarrow \text{Li}_2\text{O}$	0.67894
6.1086	$\text{LiCl} \leftrightarrow \text{Li}$	0.16369
2.8378	$\text{LiCl} \leftrightarrow \text{Li}_2\text{O}$	0.35239
5.3228	$\text{Li}_2\text{CO}_3 \leftrightarrow \text{Li}$	0.18787
0.87147	$\text{Li}_2\text{CO}_3 \leftrightarrow \text{LiCl}$	1.1475
0.54364	$\text{Li}_2\text{CO}_3 \leftrightarrow \text{LiHCO}_3$	1.8395
2.4730	$\text{Li}_2\text{CO}_3 \leftrightarrow \text{Li}_2\text{O}$	0.40436
4.5491	$\text{LiHCO}_3 \leftrightarrow \text{Li}_2\text{O}$	0.21983
3.7371	$\text{LiF} \leftrightarrow \text{Li}$	0.26759
2.1525	$\text{Li}_2\text{O} \leftrightarrow \text{Li}$	0.46457
0.27176	$\text{Li}_2\text{O} \leftrightarrow \text{Li}_2\text{SO}_4$	3.6798
5.5609	$\text{Li}_2\text{PO}_4 \leftrightarrow \text{Li}$	0.17983
0.91047	$\text{Li}_3\text{PO}_4 \leftrightarrow \text{LiCl}$	1.0983
1.0447	$\text{Li}_3\text{PO}_4 \leftrightarrow \text{Li}_2\text{CO}_3$	0.95717
0.56797	$\text{Li}_3\text{PO}_4 \leftrightarrow \text{LiHCO}_3$	1.7607
2.5837	$\text{Li}_3\text{PO}_4 \leftrightarrow \text{Li}_2\text{O}$	0.38704
0.70214	$\text{Li}_3\text{PO}_4 \leftrightarrow \text{Li}_2\text{SO}_4$	1.4242
0.60331	$\text{Li}_3\text{PO}_4 \leftrightarrow \text{Li}_2\text{SO}_4 \cdot \text{H}_2\text{O}$	1.6575
7.9153	$\text{Li}_2\text{SO}_4 \leftrightarrow \text{Li}$	0.12634
1.2967	$\text{Li}_2\text{SO}_4 \leftrightarrow \text{LiCl}$	0.77118
2.6797	$\text{SO}_3 \leftrightarrow \text{Li}_2\text{O}$	0.37317
0.72823	$\text{SO}_3 \leftrightarrow \text{Li}_2\text{SO}_4$	1.3732
MAGNESIUM		
Mg = 24.305		
1.9390	$\text{BaSO}_4 \leftrightarrow \text{MgSO}_4$	0.51572
0.94693	$\text{BaSO}_4 \leftrightarrow \text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	1.0560
6.5755	$\text{Br} \leftrightarrow \text{Mg}$	0.15208
0.86800	$\text{Br} \leftrightarrow \text{MgBr}_2$	1.1521
0.54691	$\text{Br} \leftrightarrow \text{MgBr}_2 \cdot 6\text{H}_2\text{O}$	1.8285
2.9173	$\text{Cl} \leftrightarrow \text{Mg}$	0.34278
0.74472	$\text{Cl} \leftrightarrow \text{MgCl}_2$	1.3429
0.25533	$\text{Mg} \leftrightarrow \text{MgCl}_2$	3.9165
0.28883	$\text{Mg} \leftrightarrow \text{MgCO}_3$	3.4683
10.4427	$\text{I} \leftrightarrow \text{Mg}$	0.095761
0.91261	$\text{I} \leftrightarrow \text{MgI}_2$	1.09576
0.34876	$\text{Cl} \leftrightarrow \text{MgCl}_2 \cdot 6\text{H}_2\text{O}$	2.8673
0.52193	$\text{CO}_2 \leftrightarrow \text{MgCO}_3$	1.9160

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
MAGNESIUM (continued)		
Mg = 24.305		
1.0918	$\text{CO}_2 \leftrightarrow \text{MgO}$	0.91595
0.57616	$\text{MgCO}_3 \leftrightarrow \text{Mg}(\text{HCO}_3)_2$	1.7356
10.094	$\text{MgNH}_4\text{PO}_4 \cdot 6\text{H}_2\text{O} \leftrightarrow \text{Mg}$	0.099067
6.0879	$\text{MgNH}_4\text{PO}_4 \cdot 6\text{H}_2\text{O} \leftrightarrow \text{MgO}$	0.16426
1.6581	$\text{MgO} \leftrightarrow \text{Mg}$	0.60311
0.47807	$\text{MgO} \leftrightarrow \text{MgCO}_3$	2.0918
0.27544	$\text{MgO} \leftrightarrow \text{Mg}(\text{HCO}_3)_2$	3.6305
0.33489	$\text{MgO} \leftrightarrow \text{MgSO}_4$	2.9860
4.5784	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{Mg}$	0.21841
1.1687	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MgCl}_2$	0.85562
0.54737	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MgCl}_2 \cdot 6\text{H}_2\text{O}$	1.8269
0.40049	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MgCl}_2 \cdot \text{KCl} \cdot 6\text{H}_2\text{O}$	2.4969
1.3198	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MgCO}_3$	0.75770
0.76040	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{Mg}(\text{HCO}_3)_2$	1.3151
2.7607	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MgO}$	0.36223
0.92452	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MgSO}_4$	1.0816
0.45150	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	2.2149
4.9523	$\text{MgSO}_4 \leftrightarrow \text{Mg}$	0.20193
1.9864	$\text{SO}_3 \leftrightarrow \text{MgO}$	0.50343
0.6651	$\text{SO}_3 \leftrightarrow \text{MgSO}_4$	1.5034
0.38482	$\text{SO}_3 \leftrightarrow \text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	3.0786
MANGANESE		
Mn = 54.9380		
1.5457	$\text{BaSO}_4 \leftrightarrow \text{MnSO}_4$	0.64696
0.38286	$\text{CO}_2 \leftrightarrow \text{MnCO}_3$	2.6119
0.62041	$\text{CO}_2 \leftrightarrow \text{MnO}$	1.6118
0.47793	$\text{Mn} \leftrightarrow \text{MnCO}_3$	2.0924
0.77446	$\text{Mn} \leftrightarrow \text{MnO}$	1.2912
0.63193	$\text{Mn} \leftrightarrow \text{MnO}_2$	1.5825
0.69599	$\text{Mn} \leftrightarrow \text{Mn}_2\text{O}_3$	1.4368
0.76126	$\text{MnCO}_3 \leftrightarrow \text{MnSO}_4$	1.3136
1.5395	$\text{Mn}(\text{HCO}_3)_2 \leftrightarrow \text{MnCO}_3$	0.64955
0.61711	$\text{MnO} \leftrightarrow \text{MnCO}_3$	1.6205
0.40084	$\text{MnO} \leftrightarrow \text{Mn}(\text{HCO}_3)_2$	2.4947
0.89868	$\text{MnO} \leftrightarrow \text{Mn}_2\text{O}_3$	1.1127
0.46978	$\text{MnO} \leftrightarrow \text{MnSO}_4$	2.1286
1.3883	$\text{Mn}_3\text{O}_4 \leftrightarrow \text{Mn}$	0.72031
0.66351	$\text{Mn}_3\text{O}_4 \leftrightarrow \text{MnCO}_3$	1.5071
0.43098	$\text{Mn}_3\text{O}_4 \leftrightarrow \text{Mn}(\text{HCO}_3)_2$	2.3203
1.0752	$\text{Mn}_3\text{O}_4 \leftrightarrow \text{MnO}$	0.93008
0.96625	$\text{Mn}_3\text{O}_4 \leftrightarrow \text{Mn}_2\text{O}_3$	1.0349
0.87731	$\text{Mn}_3\text{O}_4 \leftrightarrow \text{MnO}_2$	1.1399
0.50510	$\text{Mn}_3\text{O}_4 \leftrightarrow \text{MnSO}_4$	1.9798
2.5831	$\text{Mn}_2\text{P}_2\text{O}_7 \leftrightarrow \text{Mn}$	0.38713
1.2345	$\text{Mn}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MnCO}_3$	0.81002
2.0005	$\text{Mn}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MnO}$	0.49987
1.6324	$\text{Mn}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MnO}_2$	0.61261
0.93980	$\text{Mn}_2\text{P}_2\text{O}_7 \leftrightarrow \text{MnSO}_4$	1.0641
1.5836	$\text{MnS} \leftrightarrow \text{Mn}$	0.63146

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
MANGANESE (continued)		
Mn = 54.9380		
0.75687	$\text{MnS} \leftrightarrow \text{MnCO}_3$	1.3212
1.2265	$\text{MnS} \leftrightarrow \text{MnO}$	0.81535
0.57617	$\text{MnS} \leftrightarrow \text{MnSO}_4$	1.7356
2.7486	$\text{MnSO}_4 \leftrightarrow \text{Mn}$	0.36383
1.1286	$\text{SO}_3 \leftrightarrow \text{MnO}$	0.88603
0.53021	$\text{SO}_3 \leftrightarrow \text{MnSO}_4$	1.8860
MERCURY		
Hg = 200.59		
0.73882	$\text{Hg} \leftrightarrow \text{HgCl}_2$	1.3535
0.92613	$\text{Hg} \leftrightarrow \text{HgO}$	1.0798
0.86220	$\text{Hg} \leftrightarrow \text{HgS}$	1.1598
1.1767	$\text{HgCl} \leftrightarrow \text{Hg}$	0.84981
0.86939	$\text{HgCl} \leftrightarrow \text{HgCl}_2$	1.1502
0.89889	$\text{HgCl} \leftrightarrow \text{HgNO}_3$	1.1125
1.1316	$\text{HgCl} \leftrightarrow \text{Hg}_2\text{O}$	0.88371
1.0898	$\text{HgCl} \leftrightarrow \text{HgO}$	0.91760
1.0146	$\text{HgCl} \leftrightarrow \text{HgS}$	0.98564
0.98564	$\text{HgS} \leftrightarrow \text{HgCl}$	1.0146
0.85691	$\text{HgS} \leftrightarrow \text{HgCl}_2$	1.1670
0.92091	$\text{HgS} \leftrightarrow \text{Hg}(\text{CN})_2$	1.0859
0.88598	$\text{HgS} \leftrightarrow \text{HgNO}_3$	1.1287
0.71673	$\text{HgS} \leftrightarrow \text{Hg}(\text{NO}_3)_2$	1.3952
0.67903	$\text{HgS} \leftrightarrow \text{Hg}(\text{NO}_3)_2 \cdot \text{H}_2\text{O}$	1.4727
1.1153	$\text{HgS} \leftrightarrow \text{Hg}_2\text{O}$	0.89658
1.0741	$\text{HgS} \leftrightarrow \text{HgO}$	0.93097
0.78426	$\text{HgS} \leftrightarrow \text{HgSO}_4$	1.2751
MOLYBDENUM		
Mo = 95.94		
8.9876	$\text{MoC} \leftrightarrow \text{C}$	0.11126
1.5003	$\text{MoO}_3 \leftrightarrow \text{Mo}$	0.66653
0.73436	$\text{MoO}_3 \leftrightarrow (\text{NH}_4)_2\text{MoO}_4$	1.3617
2.0026	$\text{MoS}_3 \leftrightarrow \text{Mo}$	0.49935
1.3348	$\text{MoS}_4 \leftrightarrow \text{MoO}_3$	0.74918
0.98021	$\text{MoS}_3 \leftrightarrow (\text{NH}_4)_2\text{MoO}_4$	1.0202
1.0863	$(\text{NH}_4)_3\text{PO}_4 \cdot 12\text{MoO}_3 \leftrightarrow \text{MoO}_3$	0.92058
0.79771	$(\text{NH}_4)_3\text{PO}_4 \cdot 12\text{MoO}_3 \leftrightarrow (\text{NH}_4)_2\text{MoO}_4$	1.2536
3.8267	$\text{PbMoO}_4 \leftrightarrow \text{Mo}$	0.26132
2.5506	$\text{PbMoO}_4 \leftrightarrow \text{MoO}_3$	0.39207
1.8730	$\text{PbMoO}_4 \leftrightarrow (\text{NH}_4)_2\text{MoO}_4$	0.53390
NEODYMIUM		
Nd = 144.24		
1.1664	$\text{Nd}_2\text{O}_3 \leftrightarrow \text{Nd}$	0.85735
NICKEL		
Ni = 58.71		
0.20319	$\text{Ni} \leftrightarrow \text{Ni dimethylglyoxime}$	4.9215
0.20188	$\text{Ni} \leftrightarrow \text{Ni}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$	4.9533

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
NICKEL (continued)		
Ni = 58.71		
0.78585	Ni ↔ NiO	1.2725
0.20902	Ni ↔ NiSO ₄ ·7H ₂ O	4.7842
3.8675	Ni dimethylglyoxime ↔ NiO	0.25856
0.25690	NiO ↔ Ni(NO ₃) ₂ ·6H ₂ O	3.8926
0.26598	NiO ↔ NiSO ₄ ·7H ₂ O	3.7597
2.6362	NiSO ₄ ↔ Ni	0.37934
0.53220	NiSO ₄ ↔ Ni(NO ₃) ₂ ·6H ₂ O	1.8790
2.0716	NiSO ₄ ↔ NiO	0.48271
0.55102	NiSO ₄ ↔ NiSO ₄ ·7H ₂ O	1.8148
NIOBIUM		
Nb = 92.906		
7.7351	Nb ↔ C	0.12928
8.7353	NbC ↔ C	0.11448
11.065	Nb ₂ O ₅ ↔ 2C	0.090373
1.4305	Nb ₂ O ₅ ↔ Nb	0.69904
NITROGEN		
N = 14.0067		
3.2731	AgNO ₃ ↔ HNO ₃	0.30552
4.0488	AgNO ₃ ↔ N ₂ O ₃	0.24698
1.8722	KNO ₃ ↔ N ₂ O ₅	0.53412
0.22229	N ↔ HNO ₃	4.4987
0.30446	N ↔ NO ₂	3.2845
0.36855	N ↔ N ₂ O ₃	2.7134
0.22590	N ↔ NO ₃	4.4268
0.25936	N ↔ N ₂ O ₅	3.8556
6.0680	NaNO ₃ ↔ N	0.16480
1.5738	NaNO ₃ ↔ N ₂ O ₅	0.63539
0.47619	NO ↔ HNO ₃	2.1000
0.65222	NO ↔ NO ₂	1.5332
0.78951	NO ↔ N ₂ O ₃	1.2666
0.48393	NO ↔ NO ₃	2.0664
0.55561	NO ↔ N ₂ O ₅	1.7998
0.27028	NH ₃ ↔ HNO ₃	3.6999
1.2159	NH ₃ ↔ N	0.82244
0.31536	NH ₃ ↔ N ₂ O ₅	3.1710
0.27467	NH ₃ ↔ NO ₃	3.6407
0.84890	NH ₄ Cl ↔ HNO ₃	1.1780
0.86270	NH ₄ Cl ↔ NO ₃	1.1591
0.99050	NH ₄ Cl ↔ N ₂ O ₅	1.0096
3.8189	NH ₄ Cl ↔ N	0.26185
3.5221	(NH ₄) ₂ PtCl ₆ ↔ HNO ₃	0.28393
15.845	(NH ₄) ₂ PtCl ₆ ↔ N	0.063112
4.1096	(NH ₄) ₂ PtCl ₆ ↔ N ₂ O ₆	0.24333
3.5794	(NH ₄) ₂ PtCl ₆ ↔ NO ₃	0.27938
4.7169	(NH ₄) ₂ SO ₄ ↔ N	0.21200
1.2234	(NH ₄) ₂ SO ₄ ↔ N ₂ O ₅	0.81739
1.5480	Pt ↔ HNO ₃	0.64599
6.9640	Pt ↔ N	0.14360

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
NITROGEN (continued)		
N = 14.0067		
1.5732	$\text{Pt} \leftrightarrow \text{NO}_3$	0.63566
1.8062	$\text{Pt} \leftrightarrow \text{N}_2\text{O}_5$	0.55364
0.63528	$\text{SO}_3 \leftrightarrow \text{HNO}_3$	1.5741
2.8579	$\text{SO}_3 \leftrightarrow \text{N}$	0.34990
0.74125	$\text{SO}_3 \leftrightarrow \text{N}_2\text{O}_5$	1.3491
OSMIUM		
Os = 190.2		
1.3365	$\text{OsO}_4 \leftrightarrow \text{Os}$	0.74823
PALLADIUM		
Pd = 106.4		
0.49873	$\text{Pd} \leftrightarrow \text{PdCl}_2 \cdot 2\text{H}_2\text{O}$	2.0051
0.46179	$\text{Pd} \leftrightarrow \text{Pd}(\text{NO}_3)_2$	2.1655
3.3854	$\text{PdI}_2 \leftrightarrow \text{Pd}$	0.29538
3.7342	$\text{K}_2\text{PdCl}_6 \leftrightarrow \text{Pd}$	0.26779
1.8624	$\text{K}_2\text{PdCl}_6 \leftrightarrow \text{PdCl}_2 \cdot 2\text{H}_2\text{O}$	0.53695
PHOSPHORUS		
P = 30.9738		
13.514	$\text{Ag}_3\text{PO}_4 \leftrightarrow \text{P}$	0.073998
4.4075	$\text{Ag}_3\text{PO}_4 \leftrightarrow \text{PO}_4$	0.22689
5.8980	$\text{Ag}_3\text{PO}_4 \leftrightarrow \text{P}_2\text{O}_5$	0.16955
9.7730	$\text{Ag}_4\text{P}_2\text{O}_7 \leftrightarrow \text{P}$	0.10232
3.1874	$\text{Ag}_4\text{P}_2\text{O}_7 \leftrightarrow \text{PO}_4$	0.31374
4.2653	$\text{Ag}_4\text{P}_2\text{O}_7 \leftrightarrow \text{P}_2\text{O}_5$	0.23445
0.71833	$\text{Al}_2\text{O}_3 \leftrightarrow \text{P}_2\text{O}_5$	1.3921
1.2841	$\text{AlPO}_4 \leftrightarrow \text{PO}_4$	0.77877
1.7183	$\text{AlPO}_4 \leftrightarrow \text{P}_2\text{O}_5$	0.58196
2.1853	$\text{Ca}_3(\text{PO}_4)_2 \leftrightarrow \text{P}_2\text{O}_5$	0.45761
1.5881	$\text{FePO}_4 \leftrightarrow \text{PO}_4$	0.62970
2.1251	$\text{FePO}_4 \leftrightarrow \text{P}_2\text{O}_5$	0.47056
0.78392	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{Na}_2\text{HPO}_4$	1.2756
0.31073	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$	3.2182
0.53229	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{NaNH}_4\text{HPO}_4 \cdot 4\text{H}_2\text{O}$	1.8787
3.5929	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{P}$	0.27833
1.1718	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{PO}_4$	0.85340
1.5681	$\text{Mg}_2\text{P}_2\text{O}_7 \leftrightarrow \text{P}_2\text{O}_5$	0.63773
60.577	$(\text{NH}_4)_3\text{PO}_4 \cdot 12\text{MoO}_3 \leftrightarrow \text{P}$	0.016508
19.757	$(\text{NH}_4)_3\text{PO}_4 \cdot 12\text{MoO}_3 \leftrightarrow \text{PO}_4$	0.050616
26.438	$(\text{NH}_4)_3\text{PO}_4 \cdot 12\text{MoO}_3 \leftrightarrow \text{P}_2\text{O}_5$	0.037824
0.63773	$\text{P}_2\text{O}_5 \leftrightarrow \text{Mg}_2\text{P}_2\text{O}_7$	1.5681
0.49993	$\text{P}_2\text{O}_5 \leftrightarrow \text{Na}_2\text{HPO}_4$	2.0003
0.19816	$\text{P}_2\text{O}_5 \leftrightarrow \text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$	5.0464
0.33946	$\text{P}_2\text{O}_5 \leftrightarrow \text{NaNH}_4\text{HPO}_4 \cdot 4\text{H}_2\text{O}$	2.9459
2.2913	$\text{P}_2\text{O}_5 \leftrightarrow \text{P}$	0.43644
58.057	$\text{P}_2\text{O}_5 \cdot 24\text{MoO}_3 \leftrightarrow \text{P}$	0.017225
18.935	$\text{P}_2\text{O}_5 \cdot 24\text{MoO}_3 \leftrightarrow \text{PO}_4$	0.052813
25.338	$\text{P}_2\text{O}_5 \cdot 24\text{MoO}_3 \leftrightarrow \text{P}_2\text{O}_5$	0.039466
11.526	$\text{U}_2\text{P}_2\text{O}_{11} \leftrightarrow \text{P}$	0.086762

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
PHOSPHORUS (continued)		
P = 30.9738		
3.7590	$U_2P_2O_{11} \leftrightarrow PO_4$	0.26603
5.0303	$U_2P_2O_{11} \leftrightarrow P_2O_5$	0.19880
PLATINUM		
Pt = 195.09		
0.93839	$K_2PtCl_6 \leftrightarrow H_2PtCl_6 \cdot 6H_2O$	1.0657
2.4912	$K_2PtCl_6 \leftrightarrow Pt$	0.40141
1.4426	$K_2PtCl_6 \leftrightarrow PtCl_4$	0.69320
1.1383	$K_2PtCl_6 \leftrightarrow PtCl_4 \cdot 5H_2O$	0.87854
2.2753	$(NH_4)_2PtCl_6 \leftrightarrow Pt$	0.43950
1.3176	$(NH_4)_2PtCl_6 \leftrightarrow PtCl_4$	0.75897
1.0885	$(NH_4)_2PtCl_6 \leftrightarrow PtCl_6$	0.91872
0.37668	$Pt \leftrightarrow H_2PtCl_6 \cdot 6H_2O$	2.6548
0.57907	$Pt \leftrightarrow PtCl_4$	1.7269
0.45691	$Pt \leftrightarrow PtCl_4 \cdot 5H_2O$	2.1886
POTASSIUM		
K = 39.098		
0.90639	$Ag \leftrightarrow KBr$	1.1033
1.4469	$Ag \leftrightarrow KCl$	0.69116
0.88021	$Ag \leftrightarrow KClO_3$	1.1361
0.77856	$Ag \leftrightarrow KClO_4$	1.2844
1.6565	$Ag \leftrightarrow KCN$	0.60369
0.64978	$Ag \leftrightarrow KI$	1.5390
1.5779	$AgBr \leftrightarrow KBr$	0.63377
1.1244	$AgBr \leftrightarrow KBrO_3$	0.88939
1.9223	$AgCl \leftrightarrow KCl$	0.52020
1.1695	$AgCl \leftrightarrow KClO_3$	0.85508
1.0344	$AgCl \leftrightarrow KClO_4$	0.96672
2.0561	$AgCN \leftrightarrow KCN$	0.48637
1.4142	$AgI \leftrightarrow KI$	0.70712
1.0971	$AgI \leftrightarrow KIO_3$	0.91153
1.3045	$BaCrO_4 \leftrightarrow K_2CrO_4$	0.76659
1.7222	$BaCrO_4 \leftrightarrow K_2Cr_2O_7$	0.58065
1.7140	$BaSO_4 \leftrightarrow KHSO_4$	0.58342
2.1166	$BaSO_4 \leftrightarrow K_2S$	0.47245
1.3393	$BaSO_4 \leftrightarrow K_2SO_4$	0.74666
2.0436	$Br \leftrightarrow K$	0.48933
0.67145	$Br \leftrightarrow KBr$	1.4893
0.41473	$CaF_2 \leftrightarrow KF \cdot 2H_2O$	2.4112
0.72315	$CaSO_4 \leftrightarrow KF \cdot 2H_2O$	1.3828
0.90668	$Cl \leftrightarrow K$	1.1029
0.47553	$Cl \leftrightarrow KCl$	2.1029
0.28929	$Cl \leftrightarrow KClO_3$	3.4567
0.25589	$Cl \leftrightarrow KClO_4$	3.9080
0.75269	$Cl \leftrightarrow K_2O$	1.3286
0.46718	$CO_2 \leftrightarrow K_2O$	2.1405
0.31843	$CO_2 \leftrightarrow K_2CO_3$	3.1404
0.76441	$I \leftrightarrow KI$	1.3082
0.59299	$I \leftrightarrow KIO_3$	1.6864

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
POTASSIUM (continued)		
K = 39.098		
0.31907	$K \leftrightarrow KClO_3$	3.1341
0.83016	$K \leftrightarrow K_2O$	1.2046
0.38673	$K \leftrightarrow KNO_3$	2.5858
3.0436	$KBr \leftrightarrow K$	0.32856
2.5267	$KBr \leftrightarrow K_2O$	0.39578
1.9067	$KCl \leftrightarrow K$	0.52447
1.0789	$KCl \leftrightarrow K_2CO_3$	0.92690
0.50685	$KCl \leftrightarrow K_2Cr_2O_7$	1.9730
0.74466	$KCl \leftrightarrow KHCO_3$	1.3429
0.73737	$KCl \leftrightarrow KNO_3$	1.3562
1.5829	$KCl \leftrightarrow K_2O$	0.63177
0.85563	$KCl \leftrightarrow K_2SO_4$	1.1687
1.6437	$KClO_3 \leftrightarrow KCl$	0.60836
3.5433	$KClO_4 \leftrightarrow K$	0.28222
1.8584	$KClO_4 \leftrightarrow KCl$	0.53811
2.9415	$KClO_4 \leftrightarrow K_2O$	0.33996
4.2456	$KI \leftrightarrow K$	0.23554
3.5245	$KI \leftrightarrow K_2O$	0.28373
0.38435	$K_2O \leftrightarrow KClO_3$	2.6018
0.68159	$K_2O \leftrightarrow K_2CO_3$	1.4672
0.32021	$K_2O \leftrightarrow K_2Cr_2O_7$	3.1229
0.47045	$K_2O \leftrightarrow KHCO_3$	2.1256
0.46584	$K_2O \leftrightarrow KNO_3$	2.1466
0.81194	$KOH \leftrightarrow K_2CO_3$	1.2316
1.1912	$KOH \leftrightarrow K_2O$	0.83946
6.2146	$K_2PtCl_6 \leftrightarrow K$	0.16091
3.5165	$K_2PtCl_6 \leftrightarrow K_2CO_3$	0.28438
3.2594	$K_2PtCl_6 \leftrightarrow KCl$	0.30680
2.4271	$K_2PtCl_6 \leftrightarrow KHCO_3$	0.41201
2.4034	$K_2PtCl_6 \leftrightarrow KNO_3$	0.41608
5.1592	$K_2PtCl_6 \leftrightarrow K_2O$	0.19383
2.7888	$K_2PtCl_6 \leftrightarrow K_2SO_4$	0.35857
0.51224	$K_2PtCl_6 \leftrightarrow K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O$	1.9522
0.48659	$K_2PtCl_6 \leftrightarrow K_2SO_4 \cdot Cr_2(SO_4)_3 \cdot 24H_2O$	2.0551
1.2609	$K_2SO_4 \leftrightarrow K_2CO_3$	0.79308
0.87031	$K_2SO_4 \leftrightarrow KHCO_3$	1.1490
0.63990	$K_2SO_4 \leftrightarrow KHSO_4$	1.5627
1.0238	$K_2SO_4 \leftrightarrow KNO_2$	0.97674
0.86179	$K_2SO_4 \leftrightarrow KNO_3$	1.1604
2.2285	$K_2SO_4 \leftrightarrow K$	0.44875
1.8499	$K_2SO_4 \leftrightarrow K_2O$	0.54056
1.5804	$K_2SO_4 \leftrightarrow K_2S$	0.63275
0.60582	$Mg_2As_2O_7 \leftrightarrow K_3AsO_4$	1.6506
0.71164	$Mg_2As_2O_7 \leftrightarrow K_2HASO_4$	1.4052
0.40040	$Mn_2O_3 \leftrightarrow K_2MnO_4$	2.4975
0.49946	$Mn_2O_3 \leftrightarrow KMnO_4$	2.0022
0.44132	$MnS \leftrightarrow K_2MnO_4$	2.2659
0.55051	$MnS \leftrightarrow KMnO_4$	1.8165
0.13853	$N \leftrightarrow KNO_3$	7.2185
0.16844	$NH_3 \leftrightarrow KNO_3$	5.9368

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
POTASSIUM (continued)		
K = 39.098		
0.29677	$\text{NO} \leftrightarrow \text{KNO}_3$	3.3697
0.44656	$\text{N}_2\text{O}_3 \leftrightarrow \text{KNO}_2$	2.2393
1.1466	$\text{N}_2\text{O}_5 \leftrightarrow \text{K}_2\text{O}$	0.87217
0.53412	$\text{N}_2\text{O}_5 \leftrightarrow \text{KNO}_3$	1.8722
2.4946	$\text{Pt} \leftrightarrow \text{K}$	0.40086
1.3084	$\text{Pt} \leftrightarrow \text{KCl}$	0.76431
2.0710	$\text{Pt} \leftrightarrow \text{K}_2\text{O}$	0.48287
0.38943	$\text{SiO}_2 \leftrightarrow \text{K}_2\text{SiO}_3$	2.5679
0.45941	$\text{SO}_3 \leftrightarrow \text{K}_2\text{SO}_4$	2.1767
PRASEODYMIUM		
Pr = 140.908		
1.1703	$\text{Pr}_2\text{O}_3 \leftrightarrow \text{Pr}$	0.85449
RHODIUM		
Rh = 102.905		
0.26758	$\text{Rh} \leftrightarrow \text{Na}_3\text{RhCl}_6$	3.7372
0.49178	$\text{Rh} \leftrightarrow \text{RhCl}_3$	2.0334
RUBIDIUM		
Rb = 85.468		
1.6768	$\text{AgCl} \leftrightarrow \text{Rb}$	0.59636
1.1852	$\text{AgCl} \leftrightarrow \text{RbCl}$	0.84371
0.41480	$\text{Cl} \leftrightarrow \text{Rb}$	2.4108
0.29319	$\text{Cl} \leftrightarrow \text{RbCl}$	3.4107
0.70683	$\text{Rb} \leftrightarrow \text{RbCl}$	1.4148
0.74016	$\text{Rb} \leftrightarrow \text{Rb}_2\text{CO}_3$	1.3511
0.91441	$\text{Rb} \leftrightarrow \text{Rb}_2\text{O}$	1.0936
0.64023	$\text{Rb} \leftrightarrow \text{Rb}_2\text{SO}_4$	1.5620
1.0472	$\text{RbCl} \leftrightarrow \text{Rb}_2\text{CO}_3$	0.95497
0.90577	$\text{RbCl} \leftrightarrow \text{Rb}_2\text{SO}_4$	1.1040
2.1636	$\text{RbClO}_4 \leftrightarrow \text{Rb}$	0.46220
0.78828	$\text{Rb}_2\text{CO}_3 \leftrightarrow \text{RbHCO}_3$	1.2686
0.77299	$\text{Rb}_2\text{O} \leftrightarrow \text{RbCl}$	1.2937
0.70015	$\text{Rb}_2\text{O} \leftrightarrow \text{Rb}_2\text{SO}_4$	1.4283
3.3857	$\text{Rb}_2\text{PtCl}_6 \leftrightarrow \text{Rb}$	0.29536
2.3931	$\text{Rb}_2\text{PtCl}_6 \leftrightarrow \text{RbCl}$	0.41787
2.5060	$\text{Rb}_2\text{PtCl}_6 \leftrightarrow \text{Rb}_2\text{CO}_3$	0.39905
1.9754	$\text{Rb}_2\text{PtCl}_6 \leftrightarrow \text{RbHCO}_3$	0.50623
3.0959	$\text{Rb}_2\text{PtCl}_6 \leftrightarrow \text{Rb}_2\text{O}$	0.32301
1.1561	$\text{Rb}_2\text{SO}_4 \leftrightarrow \text{Rb}_2\text{CO}_3$	0.86498
0.91133	$\text{Rb}_2\text{SO}_4 \leftrightarrow \text{RbHCO}_3$	1.0973
SELENIUM		
Se = 78.96		
0.61224	$\text{Se} \leftrightarrow \text{H}_2\text{SeO}_3$	1.6334
0.54466	$\text{Se} \leftrightarrow \text{H}_2\text{SeO}_4$	1.8360
0.71161	$\text{Se} \leftrightarrow \text{SeO}_2$	1.4053
0.62193	$\text{Se} \leftrightarrow \text{SeO}_3$	1.6079

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
SILICON		
Si = 28.086		
2.6847	$\text{BaSiF}_6 \leftrightarrow \text{SiF}_4$	0.37249
4.6504	$\text{BaSiF}_6 \leftrightarrow \text{SiO}_2$	0.21503
2.1163	$\text{K}_2\text{SiF}_6 \leftrightarrow \text{SiF}_4$	0.47249
3.6661	$\text{K}_2\text{SiF}_6 \leftrightarrow \text{SiO}_2$	0.27277
3.3384	$\text{SiC} \leftrightarrow \text{C}$	0.29954
0.91111	$\text{SiC} \leftrightarrow \text{CO}_2$	1.0976
0.76933	$\text{SiO}_2 \leftrightarrow \text{H}_2\text{SiO}_3$	1.2998
2.1393	$\text{SiO}_2 \leftrightarrow \text{Si}$	0.46744
0.57730	$\text{SiO}_2 \leftrightarrow \text{SiF}_4$	1.7322
0.78972	$\text{SiO}_2 \leftrightarrow \text{SiO}_3$	1.2663
0.65250	$\text{SiO}_2 \leftrightarrow \text{SiO}_4$	1.5326
1.6651	$\text{SiO}_2 \leftrightarrow \text{Si}_2\text{O}$	0.60057
0.62514	$\text{SiO}_2 \leftrightarrow \text{Si}(\text{OH})_4$	1.5997
SILVER		
Ag = 107.868		
0.63501	$\text{Ag} \leftrightarrow \text{AgNO}_3$	1.5748
0.93096	$\text{Ag} \leftrightarrow \text{Ag}_2\text{O}$	1.0742
1.7408	$\text{AgBr} \leftrightarrow \text{Ag}$	0.57445
1.3286	$\text{AgCl} \leftrightarrow \text{Ag}$	0.75265
0.84371	$\text{AgCl} \leftrightarrow \text{AgNO}_3$	1.1852
1.2369	$\text{AgCl} \leftrightarrow \text{Ag}_2\text{O}$	0.80847
1.7935	$\text{AgCl} \leftrightarrow \text{Br}$	0.55756
1.2412	$\text{AgCN} \leftrightarrow \text{Ag}$	0.80566
2.1764	$\text{AgI} \leftrightarrow \text{Ag}$	0.45947
1.2935	$\text{Ag}_3\text{PO}_4 \leftrightarrow \text{Ag}$	0.77311
1.4031	$\text{Ag}_4\text{P}_2\text{O}_7 \leftrightarrow \text{Ag}$	0.71269
0.74079	$\text{Br} \leftrightarrow \text{Ag}$	1.3499
0.42555	$\text{Br} \leftrightarrow \text{AgBr}$	2.3499
0.32866	$\text{Cl} \leftrightarrow \text{Ag}$	3.0426
0.24737	$\text{Cl} \leftrightarrow \text{AgCl}$	4.0425
1.1764	$\text{I} \leftrightarrow \text{Ag}$	0.85004
0.54053	$\text{I} \leftrightarrow \text{AgI}$	1.8500
SODIUM		
Na = 22.9898		
1.0483	$\text{Ag} \leftrightarrow \text{NaBr}$	0.95393
1.8457	$\text{Ag} \leftrightarrow \text{NaCl}$	0.54179
0.71966	$\text{Ag} \leftrightarrow \text{NaI}$	1.3895
1.8249	$\text{AgBr} \leftrightarrow \text{NaBr}$	0.54798
2.4523	$\text{AgCl} \leftrightarrow \text{NaCl}$	0.40778
1.5663	$\text{AgI} \leftrightarrow \text{NaI}$	0.63845
1.9440	$\text{BaSO}_4 \leftrightarrow \text{NaHSO}_4$	0.51440
1.6905	$\text{BaSO}_4 \leftrightarrow \text{NaHSO}_4 \cdot \text{H}_2\text{O}$	0.59156
2.9906	$\text{BaSO}_4 \leftrightarrow \text{Na}_2\text{S}$	0.33438
1.8518	$\text{BaSO}_4 \leftrightarrow \text{Na}_2\text{SO}_3$	0.54002
0.92564	$\text{BaSO}_4 \leftrightarrow \text{Na}_2\text{SO}_3 \cdot 7\text{H}_2\text{O}$	1.0803
1.6432	$\text{BaSO}_4 \leftrightarrow \text{Na}_2\text{SO}_4$	0.60857
0.72442	$\text{BaSO}_4 \leftrightarrow \text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$	1.3804

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
SODIUM (continued)		
Na = 22.9898		
0.69198	$B_2O_3 \leftrightarrow Na_2B_4O_7$	1.4451
0.36510	$B_2O_3 \leftrightarrow Na_2B_4O_7 \cdot 10H_2O$	2.7389
3.4758	$Br \leftrightarrow Na$	0.28770
0.77657	$Br \leftrightarrow NaBr$	1.2877
2.5786	$Br \leftrightarrow Na_2O$	0.38781
0.94956	$CaCl_2 \leftrightarrow NaCl$	1.0531
0.94433	$CaCO_3 \leftrightarrow Na_2CO_3$	1.0590
0.92975	$CaF_2 \leftrightarrow NaF$	1.0756
0.52910	$CaO \leftrightarrow Na_2CO_3$	1.8900
1.2845	$CaSO_4 \leftrightarrow Na_2CO_3$	0.77854
1.5421	$Cl \leftrightarrow Na$	0.64846
0.60663	$Cl \leftrightarrow NaCl$	1.6485
1.1442	$Cl \leftrightarrow Na_2O$	0.87410
0.41520	$CO_2 \leftrightarrow Na_2CO_3$	2.4083
0.71008	$CO_2 \leftrightarrow Na_2O$	1.4083
1.2292	$H_3BO_3 \leftrightarrow Na_2B_4O_7$	0.81357
0.64853	$H_3BO_3 \leftrightarrow Na_2B_4O_7 \cdot 10H_2O$	1.5419
5.5198	$I \leftrightarrow Na$	0.18117
0.84662	$I \leftrightarrow NaI$	1.1812
4.0949	$I \leftrightarrow Na_2O$	0.24420
2.5029	$KBF_4 \leftrightarrow Na_2B_4O_7$	0.39954
1.3206	$KBF_4 \leftrightarrow Na_2B_4O_7 \cdot 10H_2O$	0.75724
0.91360	$Mg_2As_2O_7 \leftrightarrow Na_2HASO_3$	1.0946
0.83497	$Mg_2As_2O_7 \leftrightarrow Na_2HASO_4$	1.1976
0.81462	$MgCl_2 \leftrightarrow NaCl$	1.2276
0.67882	$Mg_2P_2O_7 \leftrightarrow Na_3PO_4$	1.4731
0.78392	$Mg_2P_2O_7 \leftrightarrow Na_2HPO_4$	1.2757
0.31073	$Mg_2P_2O_7 \leftrightarrow NaHPO_4 \cdot 12H_2O$	3.2182
0.53229	$Mg_2P_2O_7 \leftrightarrow NaNH_4 \cdot HPO_4 \cdot 4H_2O$	1.8787
0.49897	$Mg_2P_2O_7 \leftrightarrow Na_4P_2O_7 \cdot 10H_2O$	2.0041
4.4759	$NaBr \leftrightarrow Na$	0.22342
3.3205	$NaBr \leftrightarrow Na_2O$	0.30116
65.502	$NaOAc \cdot Mg(OAc)_2 \cdot UO_2(OAc)_2 \cdot 6\frac{1}{2}H_2O \leftrightarrow Na$	0.015267
14.635	Triple $MgOAc \leftrightarrow NaBr$	0.066331
28.416	Triple $MgOAc \leftrightarrow Na_2CO_3$	0.035192
25.768	Triple $MgOAc \leftrightarrow NaCl$	0.038809
17.926	Triple $MgOAc \leftrightarrow NaHCO_3$	0.055785
10.047	Triple $MgOAc \leftrightarrow NaI$	0.099535
37.650	Triple $MgOAc \leftrightarrow NaOH$	0.026560
48.594	Triple $MgOAc \leftrightarrow Na_2O$	0.020579
21.204	Triple $MgOAc \leftrightarrow Na_2SO_4$	0.047161
66.894	$NaOAc \cdot Zn(OAc)_2 \cdot UO_2(OAc)_2 \cdot 6H_2O \leftrightarrow Na$	0.014949
14.946	Triple $ZnOAc \leftrightarrow NaBr$	0.066909
29.020	Triple $ZnOAc \leftrightarrow Na_2CO_3$	0.034459
26.315	Triple $ZnOAc \leftrightarrow NaCl$	0.038002
18.307	Triple $ZnOAc \leftrightarrow NaHCO_3$	0.054624
10.260	Triple $ZnOAc \leftrightarrow NaI$	0.097464
38.451	Triple $ZnOAc \leftrightarrow NaOH$	0.026008
49.626	Triple $ZnOAc \leftrightarrow Na_2O$	0.020151
21.654	Triple $ZnOAc \leftrightarrow Na_2SO_4$	0.046180

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
SODIUM (continued)		
Na = 22.9898		
2.5421	$\text{NaCl} \leftrightarrow \text{Na}$	0.39337
1.1028	$\text{NaCl} \leftrightarrow \text{Na}_2\text{CO}_3$	0.90678
0.69569	$\text{NaCl} \leftrightarrow \text{NaHCO}_3$	1.4374
0.82337	$\text{NaCl} \leftrightarrow \text{Na}_2\text{HPO}_4$	1.2145
1.8859	$\text{NaCl} \leftrightarrow \text{Na}_2\text{O}$	0.53025
0.82291	$\text{NaCl} \leftrightarrow \text{Na}_2\text{SO}_4$	1.2152
0.74267	$\text{NaClO}_3 \leftrightarrow \text{AgCl}$	1.3465
1.8213	$\text{NaClO}_3 \leftrightarrow \text{NaCl}$	0.54907
0.85432	$\text{NaClO}_4 \leftrightarrow \text{AgCl}$	1.1705
2.0950	$\text{NaClO}_4 \leftrightarrow \text{NaCl}$	0.47732
2.3051	$\text{Na}_2\text{CO}_3 \leftrightarrow \text{Na}$	0.43381
0.63084	$\text{Na}_2\text{CO}_3 \leftrightarrow \text{NaHCO}_3$	1.5852
1.7101	$\text{Na}_2\text{CO}_3 \leftrightarrow \text{Na}_2\text{O}$	0.58476
1.3250	$\text{Na}_2\text{CO}_3 \leftrightarrow \text{NaOH}$	0.75473
3.6541	$\text{NaHCO}_3 \leftrightarrow \text{Na}$	0.27367
2.7108	$\text{NaHCO}_3 \leftrightarrow \text{Na}_2\text{O}$	0.36889
6.5198	$\text{NaI} \leftrightarrow \text{Na}$	0.15338
4.8368	$\text{NaI} \leftrightarrow \text{Na}_2\text{O}$	0.20675
1.3480	$\text{Na}_2\text{O} \leftrightarrow \text{Na}$	0.74186
0.43659	$\text{Na}_2\text{O} \leftrightarrow \text{Na}_2\text{HPO}_4$	2.2905
0.36460	$\text{Na}_2\text{O} \leftrightarrow \text{NaNO}_3$	2.7427
0.77480	$\text{Na}_2\text{O} \leftrightarrow \text{NaOH}$	1.2907
0.93653	$\text{Na}_4\text{P}_2\text{O}_7 \leftrightarrow \text{Na}_2\text{HPO}_4$	1.0678
0.37122	$\text{Na}_4\text{P}_2\text{O}_7 \leftrightarrow \text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$	2.6938
3.0892	$\text{Na}_2\text{SO}_4 \leftrightarrow \text{Na}$	0.32371
1.3401	$\text{Na}_2\text{SO}_4 \leftrightarrow \text{Na}_2\text{CO}_3$	0.74620
0.49640	$\text{Na}_2\text{SO}_4 \leftrightarrow \text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$	2.0145
2.2917	$\text{Na}_2\text{SO}_4 \leftrightarrow \text{Na}_2\text{O}$	0.43635
0.16480	$\text{N} \leftrightarrow \text{NaNO}_3$	6.0680
0.20038	$\text{NH}_3 \leftrightarrow \text{NaNO}_3$	4.9906
0.081461	$\text{NH}_3 \leftrightarrow \text{NaNH}_4\text{HPO}_4 \cdot 4\text{H}_2\text{O}$	12.276
0.35303	$\text{NO} \leftrightarrow \text{NaNO}_3$	2.8326
0.63539	$\text{N}_2\text{O}_5 \leftrightarrow \text{NaNO}_3$	1.5738
1.7427	$\text{N}_2\text{O}_5 \leftrightarrow \text{Na}_2\text{O}$	0.57383
0.49993	$\text{P}_2\text{O}_5 \leftrightarrow \text{Na}_2\text{HPO}_4$	2.0003
0.19816	$\text{P}_2\text{O}_5 \leftrightarrow \text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$	5.0464
0.33946	$\text{P}_2\text{O}_5 \leftrightarrow \text{NaNH}_4\text{HPO}_4 \cdot \text{H}_2\text{O}$	2.9459
0.61564	$\text{SO}_2 \leftrightarrow \text{NaHSO}_3$	1.6243
0.50828	$\text{SO}_2 \leftrightarrow \text{Na}_2\text{SO}_3$	1.9674
0.25407	$\text{SO}_2 \leftrightarrow \text{Na}_2\text{SO}_3 \cdot 7\text{H}_2\text{O}$	3.9360
1.2918	$\text{SO}_2 \leftrightarrow \text{Na}_2\text{O}$	0.77414
0.56366	$\text{SO}_2 \leftrightarrow \text{Na}_2\text{SO}_4$	1.7741
STRONTIUM		
Sr = 87.62		
0.29811	$\text{CO}_2 \leftrightarrow \text{SrCO}_3$	3.3545
0.77265	$\text{SO}_3 \leftrightarrow \text{SrO}$	1.2942
0.43588	$\text{SO}_3 \leftrightarrow \text{SrSO}_4$	2.2942
0.41402	$\text{Sr} \leftrightarrow \text{Sr}(\text{NO}_3)_2$	2.4153
1.6849	$\text{SrCO}_3 \leftrightarrow \text{Sr}$	0.59351

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
STRONTIUM (continued)		
Sr = 87.62		
0.93124	$\text{SrCO}_3 \leftrightarrow \text{SrCl}_2$	1.0738
0.70424	$\text{SrCO}_3 \leftrightarrow \text{Sr}(\text{HCO}_3)_2$	1.4200
0.69759	$\text{SrCO}_3 \leftrightarrow \text{Sr}(\text{NO}_3)_2$	1.4335
1.1826	$\text{SrO} \leftrightarrow \text{Sr}$	0.84559
0.65363	$\text{SrO} \leftrightarrow \text{SrCl}_2$	1.5299
0.70189	$\text{SrO} \leftrightarrow \text{SrCO}_3$	1.4247
0.49430	$\text{SrO} \leftrightarrow \text{Sr}(\text{HCO}_3)_2$	2.0231
0.48963	$\text{SrO} \leftrightarrow \text{Sr}(\text{NO}_3)_2$	2.0424
2.0963	$\text{SrSO}_4 \leftrightarrow \text{Sr}$	0.47703
1.1586	$\text{SrSO}_4 \leftrightarrow \text{SrCl}_2$	0.86308
1.2442	$\text{SrSO}_4 \leftrightarrow \text{SrCO}_3$	0.80373
0.86793	$\text{SrSO}_4 \leftrightarrow \text{Sr}(\text{NO}_3)_2$	1.1522
1.7726	$\text{SrSO}_4 \leftrightarrow \text{SrO}$	0.56413
SULFUR		
S = 32.06		
2.4064	$\text{As}_2\text{S}_3 \leftrightarrow \text{H}_2\text{S}$	0.41556
2.5577	$\text{As}_2\text{S}_3 \leftrightarrow \text{S}$	0.39097
3.8906	$\text{BaSO}_4 \leftrightarrow \text{FeS}_2$	0.25703
6.8486	$\text{BaSO}_4 \leftrightarrow \text{H}_2\text{S}$	0.14602
2.8436	$\text{BaSO}_4 \leftrightarrow \text{H}_2\text{SO}_3$	0.35166
2.3797	$\text{BaSO}_4 \leftrightarrow \text{H}_2\text{SO}_4$	0.42022
7.2792	$\text{BaSO}_4 \leftrightarrow \text{S}$	0.13738
3.6433	$\text{BaSO}_4 \leftrightarrow \text{SO}_2$	0.27448
2.9152	$\text{BaSO}_4 \leftrightarrow \text{SO}_3$	0.34302
2.4297	$\text{BaSO}_4 \leftrightarrow \text{SO}_4$	0.41158
4.2388	$\text{CdS} \leftrightarrow \text{H}_2\text{S}$	0.23591
4.5054	$\text{CdS} \leftrightarrow \text{S}$	0.22196
1.2250	$\text{H}_2\text{SO}_4 \leftrightarrow \text{SO}_3$	0.81631
1.6505	$(\text{NH}_4)_2\text{SO}_4 \leftrightarrow \text{SO}_3$	0.60589
1.3473	$(\text{NH}_4)_2\text{SO}_4 \leftrightarrow \text{H}_2\text{SO}_4$	0.74223
2.3492	$\text{SO}_3 \leftrightarrow \text{H}_2\text{S}$	0.42567
TANTALUM		
Ta = 180.948		
0.81898	$\text{Ta} \leftrightarrow \text{Ta}_2\text{O}_5$	1.2210
0.50515	$\text{Ta} \leftrightarrow \text{TaCl}_5$	1.9796
16.065	$\text{TaC} \leftrightarrow \text{C}$	0.062246
1.0664	$\text{TaC} \leftrightarrow \text{Ta}$	0.93776
0.61680	$\text{Ta}_2\text{O}_5 \leftrightarrow \text{TaCl}_5$	1.6213
1.0376	$\text{Ta}_2\text{O}_5 \leftrightarrow \text{Ta}_2\text{O}_4$	0.96379
TELLURIUM		
Te = 127.60		
0.65906	$\text{Te} \leftrightarrow \text{H}_2\text{TeO}_4$	1.5173
0.55565	$\text{Te} \leftrightarrow \text{H}_2\text{TeO}_4 \cdot 2\text{H}_2\text{O}$	1.7997
0.79950	$\text{Te} \leftrightarrow \text{TeO}_2$	1.2508
0.72665	$\text{Te} \leftrightarrow \text{TeO}_3$	1.3762
1.5645	$(\text{TeO}_2)_2\text{SO}_3 \leftrightarrow \text{Te}$	0.63918

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
THALLIUM		
Tl = 204.37		
0.87198	$Tl \leftrightarrow Tl_2CO_3$	1.1468
0.85218	$Tl \leftrightarrow TlCl$	1.1735
0.61693	$Tl \leftrightarrow TlI$	1.6209
0.76724	$Tl \leftrightarrow TlNO_3$	1.3034
0.96232	$Tl \leftrightarrow Tl_2O$	1.0391
1.2838	$Tl_2CrO_4 \leftrightarrow Tl$	0.77895
1.4750	$TlHSO_4 \leftrightarrow Tl$	0.67798
1.9977	$Tl_2PtCl_6 \leftrightarrow Tl$	0.50057
1.7024	$Tl_2PtCl_6 \leftrightarrow TlCl$	0.58740
1.7420	$Tl_2PtCl_6 \leftrightarrow Tl_2CO_3$	0.57406
1.2325	$Tl_2PtCl_6 \leftrightarrow TlI$	0.81139
1.5327	$Tl_2PtCl_6 \leftrightarrow TlNO_3$	0.65243
1.9225	$Tl_2PtCl_6 \leftrightarrow Tl_2O$	0.52017
1.6176	$Tl_2PtCl_6 \leftrightarrow Tl_2SO_4$	0.61821
1.2350	$Tl_2SO_4 \leftrightarrow Tl$	0.80971
THORIUM		
Th = 232.038		
1.1379	$ThO_2 \leftrightarrow Th$	0.87881
0.70627	$ThO_2 \leftrightarrow ThCl_4$	1.4159
0.44893	$ThO_2 \leftrightarrow Th(NO_3)_4 \cdot 6H_2O$	2.2275
TIN		
Sn = 118.69		
0.62600	$Sn \leftrightarrow SnCl_2$	1.5974
0.52604	$Sn \leftrightarrow SnCl_2 \cdot 2H_2O$	1.9010
0.45562	$Sn \leftrightarrow SnCl_4$	2.1948
0.32297	$Sn \leftrightarrow SnCl_4 \cdot (NH_4Cl)_2$	3.0962
0.88121	$Sn \leftrightarrow SnO$	1.1348
0.78764	$Sn \leftrightarrow SnO_2$	1.2696
0.79478	$SnO_2 \leftrightarrow SnCl_2$	1.2582
0.66786	$SnO_2 \leftrightarrow SnCl_2 \cdot 2H_2O$	1.4973
0.57846	$SnO_2 \leftrightarrow SnCl_4$	1.7287
0.41005	$SnO_2 \leftrightarrow SnCl_4 \cdot (NH_4Cl)_2$	2.4387
1.1188	$SnO_2 \leftrightarrow SnO$	0.89382
TITANIUM		
Ti = 47.867		
2.1059	$K_2TiF_6 \leftrightarrow F$	0.47485
3.0699	$K_2TiF_6 \leftrightarrow K$	0.32574
2.0660	$K_2TiF_6 \leftrightarrow 2KF$	0.48403
1.2752	$K_2TiF_6 \leftrightarrow 2(KF \cdot 2H_2O)$	0.78421
5.0150	$K_2TiF_6 \leftrightarrow Ti$	0.19940
3.0057	$K_2TiF_6 \leftrightarrow TiO_2$	0.33270
3.9853	$Ti \leftrightarrow C$	0.25092
4.9853	$TiC \leftrightarrow C$	0.20059
1.2509	$TiC \leftrightarrow Ti$	0.79940
1.6299	$TiF_4 \leftrightarrow F$	0.61354
1.6685	$TiO_2 \leftrightarrow Ti$	0.59934

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
TUNGSTEN		
W = 183.85		
3.9348	$\text{FeWO}_4 \leftrightarrow \text{Fe}_3\text{O}_4$	0.25414
1.3099	$\text{FeWO}_4 \leftrightarrow \text{WO}_3$	0.76344
6.7515	$\text{MgWO}_4 \leftrightarrow \text{MgO}$	0.14812
1.1739	$\text{MgWO}_4 \leftrightarrow \text{WO}_3$	0.85189
4.2684	$\text{MnWO}_4 \leftrightarrow \text{MnO}$	0.23428
1.3060	$\text{MnWO}_4 \leftrightarrow \text{WO}_3$	0.76571
2.0387	$\text{PbWO}_4 \leftrightarrow \text{PbO}$	0.49051
2.4751	$\text{PbWO}_4 \leftrightarrow \text{W}$	0.40403
1.9626	$\text{PbWO}_4 \leftrightarrow \text{WO}_3$	0.50952
15.307	$\text{W} \leftrightarrow \text{C}$	0.065330
0.96837	$\text{W} \leftrightarrow \text{W}_2\text{C}$	1.0327
0.93868	$\text{W} \leftrightarrow \text{WC}$	1.0653
31.614	$\text{W}_2\text{C} \leftrightarrow \text{C}$	0.031632
16.307	$\text{WC} \leftrightarrow \text{C}$	0.061324
1.1741	$\text{WO}_2 \leftrightarrow \text{W}$	0.85175
4.1515	$\text{WO}_3 \leftrightarrow \text{Fe}$	0.24088
1.2611	$\text{WO}_3 \leftrightarrow \text{W}$	0.79297
URANIUM		
U = 238.03		
1.1344	$\text{UO}_2 \leftrightarrow \text{U}$	0.88149
1.1792	$\text{U}_3\text{O}_8 \leftrightarrow \text{U}$	0.84800
1.0395	$\text{U}_3\text{O}_8 \leftrightarrow \text{UO}_2$	0.96200
0.55901	$\text{U}_3\text{O}_8 \leftrightarrow \text{UO}_2(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$	1.7889
1.4998	$\text{U}_2\text{P}_2\text{O}_{11} \leftrightarrow \text{U}$	0.66675
1.3221	$\text{U}_2\text{P}_2\text{O}_{11} \leftrightarrow \text{UO}_2$	0.75639
VANADIUM		
V = 50.941		
5.2413	$\text{VC} \leftrightarrow \text{C}$	0.19079
1.7852	$\text{V}_2\text{O}_5 \leftrightarrow \text{V}$	0.56017
0.79120	$\text{V}_2\text{O}_5 \leftrightarrow \text{VO}_4$	1.2639
YTTERBIUM		
Yb = 173.04		
1.1387	$\text{Yb}_2\text{O}_3 \leftrightarrow \text{Yb}$	0.87820
ZINC		
Zn = 65.38		
2.3955	$\text{BaSO}_4 \leftrightarrow \text{ZnS}$	0.41745
0.81171	$\text{BaSO}_4 \leftrightarrow \text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	1.2320
0.80338	$\text{Zn} \leftrightarrow \text{ZnO}$	1.2447
2.7288	$\text{ZnNH}_4\text{PO}_4 \leftrightarrow \text{Zn}$	0.36646
2.1922	$\text{ZnNH}_4\text{PO}_4 \leftrightarrow \text{ZnO}$	0.45616
0.59707	$\text{ZnO} \leftrightarrow \text{ZnCl}_2$	1.6748
0.64898	$\text{ZnO} \leftrightarrow \text{ZnCO}_3$	1.5409
0.28298	$\text{ZnO} \leftrightarrow \text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	3.5338
2.3304	$\text{Zn}_2\text{P}_2\text{O}_7 \leftrightarrow \text{Zn}$	0.42911
1.8722	$\text{Zn}_2\text{P}_2\text{O}_7 \leftrightarrow \text{ZnO}$	0.53413
1.4905	$\text{ZnS} \leftrightarrow \text{Zn}$	0.67091
1.1974	$\text{ZnS} \leftrightarrow \text{ZnO}$	0.83512
0.33885	$\text{ZnS} \leftrightarrow \text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	2.9511

TABLE 11.19 Gravimetric Factors (Continued)

Factor		Factor
ZIRCONIUM		
Zr = 91.22		
2.4864	$K_2ZrF_6 \leftrightarrow F$	0.40219
2.4390	$K_2ZrF_6 \leftrightarrow 2KF$	0.41001
1.5054	$K_2ZrF_6 \leftrightarrow 2(KF \cdot 2H_2O)$	0.66427
3.1069	$K_2ZrF_6 \leftrightarrow Zr$	0.32187
2.3000	$K_2ZrF_6 \leftrightarrow ZrO_2$	0.43478
8.5946	$ZrC \leftrightarrow C$	0.11635
2.2004	$ZrF_4 \leftrightarrow F$	0.45447
1.3508	$ZrO_2 \leftrightarrow Zr$	0.74030
0.46470	$ZrO_2 \leftrightarrow ZrP_2O_7$	2.1519

TABLE 11.20 Elements Precipitated by General Analytical Reagents

This table includes the more common reagents used in gravimetric determinations. The lists of elements precipitated are not in all cases exhaustive. The usual solvent for a precipitating agent is indicated in parentheses after its name or formula. When the symbol of an element or radical is italicized, the element may be quantitatively determined by the use of the reagent in question.

Reagent	Conditions	Substances precipitated
Ammonia, NH_3 (aqueous)	After removal of acid sulfide group.	<i>Al, Au, Be, Co, Cr, Cu, Fe, Ga, In, Ir, La, Nb, Ni, Os, P, Pb, rare earths, Sc, Si, Sn, Ta, Th, Ti, U, V, Y, Zn, Zr</i>
Ammonium polysulfide, $(NH_4)_2S_x$ (aqueous)	After removal of acid sulfide and $(NH_4)_2S$ groups.	Co, Mn, Ni, Si, Tl, V, W, Zn
Anthranilic acid, $NH_2C_6H_4COOH$ (aqueous)	1% aqueous solution (pH 6); Cu separated from others at pH 2.9.	Ag, <i>Cd, Co, Cu, Fe, Hg, Mn, Ni, Pb, Zn</i>
α -Benzoin oxime, $C_6H_5CHOHC(=NOH)C_6H_5$ (1–2% alcohol)	(a) Strongly acid medium. (b) Ammoniacal tartrate medium.	(a) <i>Cr(VI), Mo(VI), Nb, Pd(II), Ta(V), V(V), W(VI)</i> (b) Above list
Benzidine, $H_2NC_6H_4C_6H_4NH_2$ (alcohol), 0.1M HCl		<i>Cd, Fe(III), IO_3^-, PO_4^{3-}, SO_4^{2-}, W(VI)</i>
<i>N</i> -Benzoylphenylhydroxylamine, $C_6H_5CO(C_6H_5)NOH$ (aqueous)	Similar to cupferron (<i>q.v.</i>). Cu, Fe(III), and Al complexes can be weighed as such; Ti compound must be ignited to the oxide.	See Cupferron
Cinchonine, $C_{19}H_{21}N_2OH$, 6M HCl		<i>Ir, Mo, Pt, W</i>
Cupferron, $C_6H_5N(NO)ONH_4$ (aqueous)	Group precipitant for several higher-charged metal ions from strongly acid solution. Precipitate ignited to metal oxide.	<i>Al, Bi, Cu, Fe, Ga, La, Mo, Nb, Pd, rare earths, Sb, Sn, Ta, Th, Ti, Tl, U, V, W, Zr</i>
1,2-Cyclohexanedionedioxime	More water soluble than dimethylglyoxime; less subject to coprecipitation with metal chelate.	See Dimethylglyoxime