

Ammonia (NH₃)

$$Z = 10$$

$$\text{Molecular Mass : } M_A = 17.03052$$

$$\sigma_a(\text{Mb}) = 109.76097 \frac{df}{dE} (\text{eV}^{-1})$$

$$\mu_m = \sigma_a \cdot N_A \cdot M_A^{-1}$$

Table I. Integrated oscillator strength, f , for transitions below the IP.

Energy (eV)	f	λ (Å)
5.67 – 5.78	0.000233	2186.7 – 2145.1
5.78 – 5.89	0.000974	2145.1 – 2105.0
5.89 – 6.00	0.002807	2105.0 – 2066.4
6.00 – 6.12	0.004642	2066.4 – 2025.9
6.12 – 6.24	0.007357	2025.9 – 1986.9
6.24 – 6.35	0.009147	1986.9 – 1952.5
6.35 – 6.46	0.010415	1952.5 – 1919.3
6.46 – 6.58	0.009927	1919.3 – 1884.3
6.58 – 6.70	0.009990	1884.3 – 1850.5
6.70 – 6.82	0.008667	1850.5 – 1817.9
6.82 – 6.94	0.006670	1817.9 – 1786.5
6.94 – 7.06	0.004555	1786.5 – 1756.1
7.06 – 7.18	0.003107	1756.1 – 1726.8
7.18 – 7.29	0.001992	1726.8 – 1700.7
7.29 – 7.42	0.001381	1700.7 – 1670.9
7.42 – 7.52	0.000781	1670.9 – 1648.7
7.52 – 7.65	0.000682	1648.7 – 1620.7
7.65 – 7.75	0.000646	1620.7 – 1599.8
7.75 – 7.87	0.001004	1599.8 – 1575.4
7.87 – 8.00	0.001772	1575.4 – 1549.8
8.00 – 8.11	0.001910	1549.8 – 1528.8
8.11 – 8.25	0.001999	1528.8 – 1502.8
8.25 – 8.36	0.000992	1502.8 – 1483.1
8.36 – 8.49	0.001486	1483.1 – 1460.4
8.49 – 8.62	0.001787	1460.4 – 1438.3
8.62 – 8.68	0.001364	1438.3 – 1428.4
8.68 – 8.83	0.005964	1428.4 – 1404.1
8.83 – 8.95	0.009211	1404.1 – 1385.3
8.95 – 9.07	0.012787	1385.3 – 1367.0

Table I. Integrated oscillator strength, f , for transitions below the IP. (Continued)

Energy (eV)	f	λ (Å)
9.07 – 9.20	0.013773	1367.0 – 1347.7
9.20 – 9.32	0.016364	1347.7 – 1330.3
9.32 – 9.45	0.015797	1330.3 – 1312.0
9.45 – 9.59	0.014738	1312.0 – 1292.8
9.59 – 9.72	0.016062	1292.8 – 1275.6
9.72 – 9.84	0.014614	1275.6 – 1260.0
9.84 – 9.97	0.014255	1260.0 – 1243.6
9.97 – 10.09	0.012459	1243.6 – 1228.8
10.09 – 10.186	0.011324	1228.8 – 1217.2

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m .

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
1.0186E+01	1.5940E-01	1.7496E+01	6.1866E+05	1.2171E+03
1.0194E+01	8.9942E-02	9.8721E+00	3.4909E+05	1.2163E+03
1.0196E+01	8.3149E-02	9.1265E+00	3.2272E+05	1.2160E+03
1.0200E+01	7.9482E-02	8.7240E+00	3.0849E+05	1.2155E+03
1.0203E+01	5.4420E-02	5.9732E+00	2.1122E+05	1.2152E+03
1.0204E+01	6.9551E-02	7.6340E+00	2.6994E+05	1.2150E+03
1.0208E+01	7.0064E-02	7.6903E+00	2.7193E+05	1.2146E+03
1.0212E+01	7.5274E-02	8.2622E+00	2.9216E+05	1.2141E+03
1.0214E+01	6.1695E-02	6.7717E+00	2.3945E+05	1.2139E+03
1.0215E+01	5.9603E-02	6.5421E+00	2.3134E+05	1.2138E+03
1.0219E+01	4.1843E-02	4.5927E+00	1.6240E+05	1.2133E+03
1.0226E+01	5.6962E-02	6.2522E+00	2.2108E+05	1.2124E+03
1.0231E+01	9.0356E-02	9.9176E+00	3.5070E+05	1.2119E+03
1.0235E+01	1.1436E-01	1.2552E+01	4.4386E+05	1.2114E+03
1.0236E+01	9.8173E-02	1.0776E+01	3.8103E+05	1.2112E+03
1.0239E+01	7.5718E-02	8.3109E+00	2.9388E+05	1.2109E+03
1.0242E+01	1.0338E-01	1.1347E+01	4.0122E+05	1.2105E+03
1.0243E+01	1.0703E-01	1.1747E+01	4.1539E+05	1.2104E+03
1.0245E+01	1.3678E-01	1.5013E+01	5.3087E+05	1.2102E+03
1.0247E+01	1.2163E-01	1.3351E+01	4.7209E+05	1.2099E+03
1.0248E+01	1.1797E-01	1.2949E+01	4.5789E+05	1.2098E+03
1.0253E+01	9.3951E-02	1.0312E+01	3.6465E+05	1.2093E+03

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
1.0254E+01	6.8887E-02	7.5611E+00	2.6737E+05	1.2091E+03
1.0257E+01	9.1848E-02	1.0081E+01	3.5648E+05	1.2088E+03
1.0259E+01	9.4976E-02	1.0425E+01	3.6863E+05	1.2085E+03
1.0261E+01	1.2368E-01	1.3576E+01	4.8005E+05	1.2083E+03
1.0264E+01	9.4431E-02	1.0365E+01	3.6651E+05	1.2079E+03
1.0266E+01	1.0852E-01	1.1911E+01	4.2120E+05	1.2077E+03
1.0269E+01	1.1113E-01	1.2197E+01	4.3131E+05	1.2074E+03
1.0274E+01	2.3640E-01	2.5948E+01	9.1753E+05	1.2068E+03
1.0279E+01	1.1580E-01	1.2711E+01	4.4946E+05	1.2062E+03
1.0283E+01	8.8641E-02	9.7294E+00	3.4404E+05	1.2057E+03
1.0287E+01	7.9235E-02	8.6969E+00	3.0753E+05	1.2053E+03
1.0287E+01	8.9151E-02	9.7853E+00	3.4602E+05	1.2052E+03
1.0290E+01	8.0792E-02	8.8678E+00	3.1357E+05	1.2049E+03
1.0293E+01	7.8172E-02	8.5802E+00	3.0340E+05	1.2045E+03
1.0295E+01	6.7203E-02	7.3763E+00	2.6083E+05	1.2043E+03
1.0298E+01	8.2857E-02	9.0945E+00	3.2159E+05	1.2040E+03
1.0302E+01	6.5618E-02	7.2023E+00	2.5468E+05	1.2035E+03
1.0304E+01	8.1797E-02	8.9781E+00	3.1747E+05	1.2033E+03
1.0305E+01	9.0146E-02	9.8945E+00	3.4988E+05	1.2032E+03
1.0308E+01	8.2828E-02	9.0913E+00	3.2147E+05	1.2028E+03
1.0310E+01	1.0214E-01	1.1211E+01	3.9642E+05	1.2026E+03
1.0313E+01	1.0422E-01	1.1439E+01	4.0449E+05	1.2022E+03
1.0317E+01	1.2404E-01	1.3615E+01	4.8145E+05	1.2018E+03
1.0318E+01	1.1203E-01	1.2297E+01	4.3483E+05	1.2016E+03
1.0320E+01	1.0211E-01	1.1208E+01	3.9631E+05	1.2014E+03
1.0322E+01	1.0994E-01	1.2067E+01	4.2669E+05	1.2012E+03
1.0329E+01	7.8593E-02	8.6265E+00	3.0504E+05	1.2004E+03
1.0330E+01	6.9191E-02	7.5944E+00	2.6855E+05	1.2002E+03
1.0333E+01	7.4927E-02	8.2240E+00	2.9081E+05	1.1999E+03
1.0336E+01	7.4395E-02	8.1656E+00	2.8874E+05	1.1995E+03
1.0338E+01	8.3266E-02	9.1393E+00	3.2317E+05	1.1993E+03
1.0341E+01	5.9244E-02	6.5027E+00	2.2994E+05	1.1990E+03
1.0343E+01	7.2287E-02	7.9343E+00	2.8056E+05	1.1987E+03
1.0346E+01	6.5495E-02	7.1888E+00	2.5420E+05	1.1984E+03
1.0349E+01	8.7409E-02	9.5941E+00	3.3926E+05	1.1980E+03
1.0351E+01	7.9051E-02	8.6767E+00	3.0681E+05	1.1978E+03

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
1.0359E+01	1.0461E-01	1.1482E+01	4.0603E+05	1.1969E+03
1.0360E+01	1.1557E-01	1.2685E+01	4.4856E+05	1.1968E+03
1.0363E+01	1.1452E-01	1.2570E+01	4.4447E+05	1.1964E+03
1.0367E+01	1.2912E-01	1.4172E+01	5.0114E+05	1.1959E+03
1.0369E+01	1.1606E-01	1.2739E+01	4.5046E+05	1.1957E+03
1.0373E+01	1.3171E-01	1.4457E+01	5.1121E+05	1.1953E+03
1.0379E+01	1.1447E-01	1.2565E+01	4.4430E+05	1.1946E+03
1.0380E+01	1.2021E-01	1.3194E+01	4.6657E+05	1.1944E+03
1.0384E+01	1.4995E-01	1.6459E+01	5.8201E+05	1.1940E+03
1.0387E+01	1.0401E-01	1.1417E+01	4.0370E+05	1.1937E+03
1.0394E+01	1.1025E-01	1.2101E+01	4.2791E+05	1.1929E+03
1.0395E+01	1.4731E-01	1.6169E+01	5.7175E+05	1.1927E+03
1.0398E+01	2.0421E-01	2.2414E+01	7.9259E+05	1.1924E+03
1.0403E+01	1.4050E-01	1.5422E+01	5.4532E+05	1.1918E+03
1.0407E+01	1.3527E-01	1.4848E+01	5.2502E+05	1.1914E+03
1.0409E+01	1.2692E-01	1.3931E+01	4.9260E+05	1.1911E+03
1.0413E+01	8.7231E-02	9.5745E+00	3.3856E+05	1.1907E+03
1.0414E+01	9.4533E-02	1.0376E+01	3.6690E+05	1.1905E+03
1.0420E+01	8.5645E-02	9.4005E+00	3.3241E+05	1.1899E+03
1.0423E+01	9.5032E-02	1.0431E+01	3.6884E+05	1.1895E+03
1.0428E+01	8.4057E-02	9.2261E+00	3.2624E+05	1.1890E+03
1.0442E+01	1.1743E-01	1.2889E+01	4.5577E+05	1.1874E+03
1.0443E+01	1.1011E-01	1.2086E+01	4.2737E+05	1.1872E+03
1.0449E+01	1.3150E-01	1.4434E+01	5.1039E+05	1.1866E+03
1.0463E+01	7.7173E-02	8.4706E+00	2.9953E+05	1.1850E+03
1.0480E+01	1.0740E-01	1.1789E+01	4.1686E+05	1.1831E+03
1.0488E+01	1.3296E-01	1.4594E+01	5.1606E+05	1.1821E+03
1.0492E+01	1.2825E-01	1.4077E+01	4.9777E+05	1.1817E+03
1.0504E+01	1.4753E-01	1.6193E+01	5.7261E+05	1.1803E+03
1.0509E+01	1.5848E-01	1.7395E+01	6.1511E+05	1.1798E+03
1.0517E+01	1.1514E-01	1.2638E+01	4.4688E+05	1.1789E+03
1.0520E+01	1.4801E-01	1.6246E+01	5.7447E+05	1.1786E+03
1.0525E+01	1.7567E-01	1.9281E+01	6.8181E+05	1.1780E+03
1.0528E+01	1.4329E-01	1.5728E+01	5.5615E+05	1.1777E+03
1.0533E+01	1.5006E-01	1.6471E+01	5.8244E+05	1.1771E+03
1.0537E+01	1.2604E-01	1.3834E+01	4.8919E+05	1.1766E+03

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
1.0543E+01	1.0410E-01	1.1426E+01	4.0402E+05	1.1760E+03
1.0553E+01	1.0095E-01	1.1080E+01	3.9179E+05	1.1749E+03
1.0557E+01	1.0563E-01	1.1594E+01	4.0998E+05	1.1744E+03
1.0558E+01	1.1189E-01	1.2281E+01	4.3425E+05	1.1743E+03
1.0564E+01	1.1866E-01	1.3024E+01	4.6054E+05	1.1737E+03
1.0569E+01	1.1186E-01	1.2278E+01	4.3415E+05	1.1731E+03
1.0571E+01	1.0664E-01	1.1705E+01	4.1388E+05	1.1729E+03
1.0572E+01	1.1133E-01	1.2220E+01	4.3210E+05	1.1728E+03
1.0577E+01	1.4629E-01	1.6057E+01	5.6780E+05	1.1722E+03
1.0586E+01	1.0972E-01	1.2043E+01	4.2586E+05	1.1712E+03
1.0598E+01	1.0134E-01	1.1123E+01	3.9334E+05	1.1699E+03
1.0601E+01	1.1647E-01	1.2784E+01	4.5204E+05	1.1696E+03
1.0603E+01	1.1229E-01	1.2325E+01	4.3583E+05	1.1693E+03
1.0607E+01	1.1855E-01	1.3012E+01	4.6011E+05	1.1689E+03
1.0611E+01	1.2063E-01	1.3240E+01	4.6818E+05	1.1685E+03
1.0621E+01	1.5139E-01	1.6617E+01	5.8760E+05	1.1673E+03
1.0625E+01	1.4408E-01	1.5814E+01	5.5920E+05	1.1669E+03
1.0632E+01	1.5606E-01	1.7129E+01	6.0571E+05	1.1661E+03
1.0635E+01	1.7693E-01	1.9420E+01	6.8672E+05	1.1658E+03
1.0639E+01	1.4769E-01	1.6211E+01	5.7322E+05	1.1654E+03
1.0642E+01	1.4090E-01	1.5465E+01	5.4686E+05	1.1650E+03
1.0643E+01	1.4664E-01	1.6095E+01	5.6913E+05	1.1649E+03
1.0649E+01	1.4923E-01	1.6380E+01	5.7921E+05	1.1643E+03
1.0652E+01	1.6488E-01	1.8098E+01	6.3996E+05	1.1640E+03
1.0655E+01	1.7218E-01	1.8899E+01	6.6829E+05	1.1636E+03
1.0658E+01	1.5182E-01	1.6664E+01	5.8925E+05	1.1633E+03
1.0663E+01	1.6433E-01	1.8037E+01	6.3781E+05	1.1628E+03
1.0666E+01	1.3926E-01	1.5286E+01	5.4051E+05	1.1624E+03
1.0672E+01	1.3768E-01	1.5112E+01	5.3438E+05	1.1618E+03
1.0677E+01	1.2357E-01	1.3564E+01	4.7962E+05	1.1612E+03
1.0690E+01	1.3242E-01	1.4534E+01	5.1394E+05	1.1598E+03
1.0696E+01	1.2770E-01	1.4017E+01	4.9565E+05	1.1592E+03
1.0698E+01	1.3553E-01	1.4876E+01	5.2603E+05	1.1590E+03
1.0702E+01	1.3813E-01	1.5161E+01	5.3610E+05	1.1585E+03
1.0704E+01	1.5588E-01	1.7109E+01	6.0499E+05	1.1583E+03
1.0710E+01	1.2767E-01	1.4013E+01	4.9551E+05	1.1576E+03

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
1.0714E+01	1.3183E-01	1.4470E+01	5.1168E+05	1.1572E+03
1.0716E+01	1.4175E-01	1.5558E+01	5.5016E+05	1.1570E+03
1.0723E+01	1.2711E-01	1.3952E+01	4.9335E+05	1.1562E+03
1.0728E+01	1.3962E-01	1.5325E+01	5.4191E+05	1.1557E+03
1.0732E+01	1.3022E-01	1.4293E+01	5.0540E+05	1.1553E+03
1.0736E+01	1.4325E-01	1.5724E+01	5.5601E+05	1.1548E+03
1.0742E+01	1.4325E-01	1.5723E+01	5.5597E+05	1.1542E+03
1.0743E+01	1.5472E-01	1.6982E+01	6.0051E+05	1.1541E+03
1.0749E+01	1.6776E-01	1.8413E+01	6.5111E+05	1.1535E+03
1.0751E+01	1.7976E-01	1.9731E+01	6.9770E+05	1.1532E+03
1.0753E+01	1.6931E-01	1.8584E+01	6.5714E+05	1.1530E+03
1.0758E+01	1.6095E-01	1.7666E+01	6.2468E+05	1.1525E+03
1.0761E+01	1.6982E-01	1.8640E+01	6.5911E+05	1.1522E+03
1.0763E+01	1.7190E-01	1.8868E+01	6.6718E+05	1.1519E+03
1.0767E+01	1.8807E-01	2.0642E+01	7.2994E+05	1.1515E+03
1.0775E+01	1.5882E-01	1.7433E+01	6.1643E+05	1.1507E+03
1.0777E+01	1.6560E-01	1.8176E+01	6.4272E+05	1.1505E+03
1.0782E+01	1.7812E-01	1.9550E+01	6.9131E+05	1.1499E+03
1.0791E+01	1.6609E-01	1.8230E+01	6.4462E+05	1.1490E+03
1.0793E+01	1.7704E-01	1.9433E+01	6.8715E+05	1.1487E+03
1.0797E+01	1.6451E-01	1.8056E+01	6.3849E+05	1.1483E+03
1.0805E+01	1.5143E-01	1.6621E+01	5.8774E+05	1.1475E+03
1.0808E+01	1.5769E-01	1.7308E+01	6.1202E+05	1.1471E+03
1.0814E+01	1.4514E-01	1.5931E+01	5.6332E+05	1.1465E+03
1.0820E+01	1.5191E-01	1.6674E+01	5.8961E+05	1.1459E+03
1.0823E+01	1.4512E-01	1.5929E+01	5.6325E+05	1.1456E+03
1.0828E+01	1.6442E-01	1.8047E+01	6.3817E+05	1.1450E+03
1.0832E+01	1.5867E-01	1.7415E+01	6.1582E+05	1.1446E+03
1.0835E+01	1.6336E-01	1.7931E+01	6.3404E+05	1.1443E+03
1.0837E+01	1.4770E-01	1.6212E+01	5.7326E+05	1.1441E+03
1.0840E+01	1.5395E-01	1.6898E+01	5.9753E+05	1.1438E+03
1.0845E+01	1.5185E-01	1.6667E+01	5.8936E+05	1.1432E+03
1.0849E+01	1.4662E-01	1.6093E+01	5.6906E+05	1.1428E+03
1.0855E+01	1.6174E-01	1.7753E+01	6.2777E+05	1.1422E+03
1.0859E+01	1.4869E-01	1.6320E+01	5.7709E+05	1.1418E+03
1.0862E+01	1.5859E-01	1.7407E+01	6.1554E+05	1.1414E+03

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
1.0867E+01	1.6067E-01	1.7635E+01	6.2361E+05	1.1409E+03
1.0876E+01	1.7683E-01	1.9409E+01	6.8633E+05	1.1400E+03
1.0878E+01	1.8674E-01	2.0496E+01	7.2477E+05	1.1398E+03
1.0886E+01	1.7419E-01	1.9119E+01	6.7607E+05	1.1389E+03
1.0895E+01	1.9714E-01	2.1638E+01	7.6515E+05	1.1380E+03
1.0905E+01	1.7989E-01	1.9745E+01	6.9820E+05	1.1370E+03
1.0911E+01	1.9710E-01	2.1633E+01	7.6497E+05	1.1363E+03
1.0916E+01	1.8299E-01	2.0085E+01	7.1021E+05	1.1358E+03
1.0922E+01	1.9029E-01	2.0886E+01	7.3854E+05	1.1352E+03
1.0934E+01	1.7251E-01	1.8935E+01	6.6955E+05	1.1339E+03
1.0939E+01	1.8137E-01	1.9907E+01	7.0394E+05	1.1334E+03
1.0944E+01	1.7404E-01	1.9103E+01	6.7550E+05	1.1329E+03
1.0952E+01	1.7455E-01	1.9159E+01	6.7747E+05	1.1321E+03
1.0953E+01	1.8133E-01	1.9903E+01	7.0379E+05	1.1320E+03
1.0958E+01	1.8549E-01	2.0360E+01	7.1993E+05	1.1314E+03
1.0965E+01	1.7817E-01	1.9556E+01	6.9153E+05	1.1307E+03
1.0969E+01	1.7921E-01	1.9670E+01	6.9555E+05	1.1303E+03
1.0977E+01	1.7031E-01	1.8693E+01	6.6101E+05	1.1295E+03
1.0982E+01	1.8021E-01	1.9780E+01	6.9945E+05	1.1290E+03
1.0990E+01	1.7706E-01	1.9435E+01	6.8723E+05	1.1282E+03
1.1003E+01	1.8904E-01	2.0749E+01	7.3370E+05	1.1268E+03
1.1004E+01	1.9321E-01	2.1206E+01	7.4988E+05	1.1267E+03
1.1007E+01	1.9425E-01	2.1321E+01	7.5393E+05	1.1264E+03
1.1008E+01	2.0468E-01	2.2466E+01	7.9442E+05	1.1263E+03
1.1017E+01	1.9369E-01	2.1260E+01	7.5178E+05	1.1254E+03
1.1024E+01	1.9942E-01	2.1889E+01	7.7401E+05	1.1247E+03
1.1028E+01	2.0986E-01	2.3034E+01	8.1450E+05	1.1243E+03
1.1037E+01	2.0253E-01	2.2230E+01	7.8606E+05	1.1234E+03
1.1042E+01	2.0826E-01	2.2858E+01	8.0830E+05	1.1228E+03
1.1047E+01	2.0041E-01	2.1997E+01	7.7785E+05	1.1223E+03
1.1055E+01	2.0353E-01	2.2339E+01	7.8993E+05	1.1215E+03
1.1058E+01	2.0665E-01	2.2682E+01	8.0206E+05	1.1212E+03
1.1060E+01	2.0038E-01	2.1993E+01	7.7771E+05	1.1210E+03
1.1067E+01	1.9619E-01	2.1534E+01	7.6146E+05	1.1203E+03
1.1080E+01	1.9564E-01	2.1473E+01	7.5931E+05	1.1190E+03
1.1094E+01	2.0186E-01	2.2157E+01	7.8348E+05	1.1176E+03

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
1.1110E+01	1.9190E-01	2.1063E+01	7.4482E+05	1.1160E+03
1.1122E+01	1.9658E-01	2.1577E+01	7.6297E+05	1.1148E+03
1.1142E+01	2.1532E-01	2.3633E+01	8.3569E+05	1.1128E+03
1.1154E+01	2.0798E-01	2.2828E+01	8.0722E+05	1.1116E+03
1.1163E+01	2.2101E-01	2.4258E+01	8.5779E+05	1.1107E+03
1.1171E+01	2.1681E-01	2.3798E+01	8.4150E+05	1.1099E+03
1.1178E+01	2.2201E-01	2.4369E+01	8.6169E+05	1.1092E+03
1.1183E+01	2.1365E-01	2.3451E+01	8.2924E+05	1.1087E+03
1.1194E+01	2.1885E-01	2.4021E+01	8.4939E+05	1.1076E+03
1.1207E+01	2.1307E-01	2.3387E+01	8.2698E+05	1.1063E+03
1.1218E+01	2.1618E-01	2.3728E+01	8.3903E+05	1.1052E+03
1.1225E+01	2.1668E-01	2.3783E+01	8.4100E+05	1.1045E+03
1.1229E+01	2.2085E-01	2.4241E+01	8.5718E+05	1.1041E+03
1.1235E+01	2.1667E-01	2.3781E+01	8.4093E+05	1.1036E+03
1.1244E+01	2.1559E-01	2.3664E+01	8.3677E+05	1.1027E+03
1.1261E+01	2.1816E-01	2.3946E+01	8.4674E+05	1.1010E+03
1.1275E+01	2.2700E-01	2.4916E+01	8.8106E+05	1.0996E+03
1.1287E+01	2.2333E-01	2.4513E+01	8.6679E+05	1.0985E+03
1.1297E+01	2.2904E-01	2.5139E+01	8.8895E+05	1.0975E+03
1.1303E+01	2.2641E-01	2.4851E+01	8.7876E+05	1.0969E+03
1.1307E+01	2.2849E-01	2.5080E+01	8.8683E+05	1.0965E+03
1.1316E+01	2.2378E-01	2.4562E+01	8.6854E+05	1.0957E+03
1.1328E+01	2.2688E-01	2.4903E+01	8.8059E+05	1.0945E+03
1.1340E+01	2.2476E-01	2.4670E+01	8.7235E+05	1.0933E+03
1.1362E+01	2.2889E-01	2.5123E+01	8.8838E+05	1.0912E+03
1.1375E+01	2.2625E-01	2.4833E+01	8.7812E+05	1.0900E+03
1.1401E+01	2.2827E-01	2.5055E+01	8.8597E+05	1.0875E+03
1.1414E+01	2.2563E-01	2.4765E+01	8.7572E+05	1.0862E+03
1.1429E+01	2.2873E-01	2.5106E+01	8.8777E+05	1.0848E+03
1.1442E+01	2.2713E-01	2.4930E+01	8.8156E+05	1.0836E+03
1.1460E+01	2.2814E-01	2.5041E+01	8.8547E+05	1.0819E+03
1.1484E+01	2.2547E-01	2.4748E+01	8.7511E+05	1.0796E+03
1.1493E+01	2.2650E-01	2.4860E+01	8.7909E+05	1.0788E+03
1.1503E+01	2.2542E-01	2.4743E+01	8.7493E+05	1.0778E+03
1.1541E+01	2.3109E-01	2.5364E+01	8.9691E+05	1.0743E+03
1.1550E+01	2.2950E-01	2.5190E+01	8.9074E+05	1.0735E+03

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
1.1568E+01	2.3207E-01	2.5472E+01	9.0071E+05	1.0718E+03
1.1588E+01	2.2837E-01	2.5066E+01	8.8637E+05	1.0699E+03
1.1622E+01	2.3038E-01	2.5286E+01	8.9415E+05	1.0668E+03
1.1650E+01	2.2821E-01	2.5049E+01	8.8576E+05	1.0642E+03
1.1697E+01	2.2779E-01	2.5002E+01	8.8409E+05	1.0600E+03
1.1808E+01	2.1867E-01	2.4002E+01	8.4873E+05	1.0500E+03
1.1922E+01	2.2232E-01	2.4402E+01	8.6288E+05	1.0400E+03
1.2037E+01	2.0956E-01	2.3002E+01	8.1337E+05	1.0300E+03
1.2155E+01	2.0319E-01	2.2302E+01	7.8861E+05	1.0200E+03
1.2276E+01	1.9772E-01	2.1702E+01	7.6739E+05	1.0100E+03
1.2398E+01	1.9043E-01	2.0902E+01	7.3910E+05	1.0000E+03
1.2524E+01	1.8223E-01	2.0002E+01	7.0728E+05	9.9000E+02
1.2651E+01	1.7312E-01	1.9002E+01	6.7191E+05	9.8000E+02
1.2782E+01	1.6310E-01	1.7901E+01	6.3301E+05	9.7000E+02
1.2915E+01	1.5489E-01	1.7001E+01	6.0118E+05	9.6000E+02
1.3051E+01	1.4761E-01	1.6201E+01	5.7289E+05	9.5000E+02
1.3190E+01	1.4305E-01	1.5701E+01	5.5521E+05	9.4000E+02
1.3332E+01	1.4943E-01	1.6401E+01	5.7997E+05	9.3000E+02
1.3477E+01	1.6218E-01	1.7801E+01	6.2948E+05	9.2000E+02
1.3625E+01	1.7858E-01	1.9602E+01	6.9313E+05	9.1000E+02
1.3776E+01	1.9316E-01	2.1202E+01	7.4971E+05	9.0000E+02
1.3931E+01	2.0501E-01	2.2502E+01	7.9569E+05	8.9000E+02
1.4089E+01	2.1685E-01	2.3802E+01	8.4166E+05	8.8000E+02
1.4251E+01	2.2688E-01	2.4902E+01	8.8056E+05	8.7000E+02
1.4417E+01	2.3690E-01	2.6002E+01	9.1946E+05	8.6000E+02
1.4586E+01	2.4601E-01	2.7002E+01	9.5482E+05	8.5000E+02
1.4760E+01	2.5694E-01	2.8202E+01	9.9726E+05	8.4000E+02
1.4938E+01	2.6697E-01	2.9302E+01	1.0362E+06	8.3000E+02
1.5120E+01	2.7790E-01	3.0503E+01	1.0786E+06	8.2000E+02
1.5307E+01	2.8610E-01	3.1403E+01	1.1104E+06	8.1000E+02
1.5498E+01	2.9248E-01	3.2103E+01	1.1352E+06	8.0000E+02
1.5694E+01	2.9612E-01	3.2503E+01	1.1493E+06	7.9000E+02
1.5895E+01	2.9977E-01	3.2903E+01	1.1635E+06	7.8000E+02
1.6102E+01	3.0159E-01	3.3103E+01	1.1705E+06	7.7000E+02
1.6314E+01	3.0250E-01	3.3203E+01	1.1741E+06	7.6000E+02
1.6531E+01	3.0250E-01	3.3203E+01	1.1741E+06	7.5000E+02

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
1.6665E+01	3.0159E-01	3.3103E+01	1.1705E+06	7.4400E+02
1.6755E+01	3.0068E-01	3.3003E+01	1.1670E+06	7.4000E+02
1.6846E+01	3.0068E-01	3.3003E+01	1.1670E+06	7.3600E+02
1.6984E+01	2.9886E-01	3.2803E+01	1.1599E+06	7.3000E+02
1.7220E+01	2.9612E-01	3.2503E+01	1.1493E+06	7.2000E+02
1.7463E+01	2.9157E-01	3.2003E+01	1.1316E+06	7.1000E+02
1.7712E+01	2.8610E-01	3.1403E+01	1.1104E+06	7.0000E+02
1.7969E+01	2.8337E-01	3.1103E+01	1.0998E+06	6.9000E+02
1.8233E+01	2.8063E-01	3.0803E+01	1.0892E+06	6.8000E+02
1.8505E+01	2.7881E-01	3.0603E+01	1.0821E+06	6.7000E+02
1.8785E+01	2.7608E-01	3.0302E+01	1.0715E+06	6.6000E+02
1.9074E+01	2.7334E-01	3.0002E+01	1.0609E+06	6.5000E+02
1.9373E+01	2.6970E-01	2.9602E+01	1.0468E+06	6.4000E+02
1.9680E+01	2.6697E-01	2.9302E+01	1.0362E+06	6.3000E+02
1.9997E+01	2.6241E-01	2.8802E+01	1.0185E+06	6.2000E+02
2.0325E+01	2.5877E-01	2.8402E+01	1.0043E+06	6.1000E+02
2.0664E+01	2.5421E-01	2.7902E+01	9.8665E+05	6.0000E+02
2.1014E+01	2.4874E-01	2.7302E+01	9.6543E+05	5.9000E+02
2.1377E+01	2.4328E-01	2.6702E+01	9.4421E+05	5.8000E+02
2.1752E+01	2.3781E-01	2.6102E+01	9.2300E+05	5.7000E+02
2.2140E+01	2.3325E-01	2.5602E+01	9.0531E+05	5.6000E+02
2.2543E+01	2.2870E-01	2.5102E+01	8.8763E+05	5.5000E+02
2.2960E+01	2.2505E-01	2.4702E+01	8.7349E+05	5.4000E+02
2.3393E+01	2.1959E-01	2.4102E+01	8.5227E+05	5.3000E+02
2.3843E+01	2.1230E-01	2.3302E+01	8.2398E+05	5.2000E+02
2.4311E+01	2.0501E-01	2.2502E+01	7.9569E+05	5.1000E+02
2.4797E+01	1.9772E-01	2.1702E+01	7.6739E+05	5.0000E+02
2.5303E+01	1.9134E-01	2.1002E+01	7.4264E+05	4.9000E+02
2.5830E+01	1.8678E-01	2.0502E+01	7.2496E+05	4.8000E+02
2.6380E+01	1.7858E-01	1.9602E+01	6.9313E+05	4.7000E+02
2.6953E+01	1.7130E-01	1.8802E+01	6.6484E+05	4.6000E+02
2.7552E+01	1.6765E-01	1.8402E+01	6.5069E+05	4.5000E+02
2.8178E+01	1.6310E-01	1.7901E+01	6.3301E+05	4.4000E+02
2.8834E+01	1.5672E-01	1.7201E+01	6.0826E+05	4.3000E+02
2.9520E+01	1.5034E-01	1.6501E+01	5.8350E+05	4.2000E+02
3.0240E+01	1.4396E-01	1.5801E+01	5.5875E+05	4.1000E+02

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
3.0996E+01	1.3758E-01	1.5101E+01	5.3399E+05	4.0000E+02
3.1791E+01	1.3029E-01	1.4301E+01	5.0570E+05	3.9000E+02
3.2627E+01	1.2300E-01	1.3501E+01	4.7741E+05	3.8000E+02
3.3509E+01	1.1572E-01	1.2701E+01	4.4912E+05	3.7000E+02
3.4440E+01	1.0934E-01	1.2001E+01	4.2437E+05	3.6000E+02
3.5424E+01	1.0205E-01	1.1201E+01	3.9607E+05	3.5000E+02
3.6466E+01	9.5670E-02	1.0501E+01	3.7132E+05	3.4000E+02
3.7571E+01	9.0203E-02	9.9008E+00	3.5010E+05	3.3000E+02
3.8745E+01	8.4737E-02	9.3008E+00	3.2888E+05	3.2000E+02
3.9995E+01	7.9270E-02	8.7007E+00	3.0767E+05	3.1000E+02
4.1328E+01	7.3803E-02	8.1007E+00	2.8645E+05	3.0000E+02
4.2753E+01	6.8336E-02	7.5006E+00	2.6523E+05	2.9000E+02
4.4280E+01	6.3325E-02	6.9506E+00	2.4578E+05	2.8000E+02
4.5920E+01	5.8496E-02	6.4205E+00	2.2704E+05	2.7000E+02
4.7686E+01	5.3575E-02	5.8805E+00	2.0794E+05	2.6000E+02
4.9594E+01	4.9020E-02	5.3804E+00	1.9026E+05	2.5000E+02
5.1660E+01	4.4646E-02	4.9004E+00	1.7328E+05	2.4000E+02
5.3906E+01	4.0273E-02	4.4204E+00	1.5631E+05	2.3000E+02
5.6356E+01	3.6446E-02	4.0003E+00	1.4146E+05	2.2000E+02
5.9040E+01	3.2619E-02	3.5803E+00	1.2660E+05	2.1000E+02
6.1992E+01	2.8974E-02	3.1803E+00	1.1246E+05	2.0000E+02
6.5255E+01	2.5694E-02	2.8202E+00	9.9726E+04	1.9000E+02
6.8880E+01	2.2505E-02	2.4702E+00	8.7349E+04	1.8000E+02
7.2932E+01	1.9590E-02	2.1502E+00	7.6032E+04	1.7000E+02
7.7490E+01	1.6856E-02	1.8502E+00	6.5423E+04	1.6000E+02
8.2656E+01	1.4305E-02	1.5701E+00	5.5521E+04	1.5000E+02
8.8560E+01	1.2300E-02	1.3501E+00	4.7741E+04	1.4000E+02
9.5372E+01	1.0478E-02	1.1501E+00	4.0668E+04	1.3000E+02
1.0332E+02	8.7470E-03	9.6008E-01	3.3949E+04	1.2000E+02
1.1271E+02	6.9247E-03	7.6006E-01	2.6876E+04	1.1000E+02
1.2500E+02	5.6752E-03	6.2291E-01	2.2027E+04	9.9187E+01
1.5000E+02	3.7558E-03	4.1225E-01	1.4577E+04	8.2656E+01
1.7500E+02	2.6006E-03	2.8544E-01	1.0093E+04	7.0848E+01
2.0000E+02	1.8656E-03	2.0477E-01	7.2410E+03	6.1992E+01
2.2500E+02	1.3780E-03	1.5126E-01	5.3485E+03	5.5104E+01
2.5000E+02	1.0432E-03	1.1450E-01	4.0488E+03	4.9594E+01

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
2.7500E+02	8.0631E-04	8.8501E-02	3.1295E+03	4.5085E+01
3.0000E+02	6.3450E-04	6.9644E-02	2.4627E+03	4.1328E+01
3.5000E+02	4.1085E-04	4.5096E-02	1.5946E+03	3.5424E+01
4.0000E+02	3.1621E-04	3.4707E-02	1.2273E+03	3.0996E+01
4.0038E+02	2.1343E-03	2.3426E-01	8.2837E+03	3.0967E+01
4.0071E+02	6.2503E-03	6.8604E-01	2.4259E+04	3.0941E+01
4.0082E+02	1.3142E-02	1.4425E+00	5.1009E+04	3.0933E+01
4.0094E+02	1.5359E-02	1.6858E+00	5.9612E+04	3.0923E+01
4.0120E+02	9.7305E-03	1.0680E+00	3.7766E+04	3.0903E+01
4.0136E+02	6.0043E-03	6.5904E-01	2.3304E+04	3.0891E+01
4.0159E+02	5.2883E-03	5.8044E-01	2.0525E+04	3.0873E+01
4.0187E+02	6.4733E-03	7.1052E-01	2.5125E+04	3.0852E+01
4.0207E+02	2.2080E-02	2.4235E+00	8.5698E+04	3.0836E+01
4.0223E+02	4.2520E-02	4.6671E+00	1.6503E+05	3.0824E+01
4.0237E+02	4.4737E-02	4.9104E+00	1.7364E+05	3.0813E+01
4.0257E+02	4.1645E-02	4.5710E+00	1.6163E+05	3.0798E+01
4.0275E+02	3.1976E-02	3.5097E+00	1.2411E+05	3.0784E+01
4.0279E+02	2.5637E-02	2.8139E+00	9.9502E+04	3.0781E+01
4.0313E+02	2.1037E-02	2.3090E+00	8.1649E+04	3.0755E+01
4.0319E+02	1.6282E-02	1.7871E+00	6.3193E+04	3.0751E+01
4.0337E+02	1.4695E-02	1.6130E+00	5.7036E+04	3.0737E+01
4.0364E+02	1.6910E-02	1.8560E+00	6.5630E+04	3.0717E+01
4.0391E+02	1.5242E-02	1.6730E+00	5.9158E+04	3.0696E+01
4.0420E+02	1.7775E-02	1.9510E+00	6.8989E+04	3.0674E+01
4.0455E+02	1.9355E-02	2.1244E+00	7.5120E+04	3.0647E+01
4.0496E+02	1.8240E-02	2.0020E+00	7.0792E+04	3.0616E+01
4.0549E+02	1.6966E-02	1.8622E+00	6.5849E+04	3.0576E+01
4.0652E+02	1.5368E-02	1.6868E+00	5.9647E+04	3.0499E+01
4.0786E+02	1.4004E-02	1.5371E+00	5.4354E+04	3.0399E+01
4.0908E+02	1.2959E-02	1.4224E+00	5.0297E+04	3.0308E+01
4.1096E+02	1.1905E-02	1.3067E+00	4.6205E+04	3.0169E+01
4.1292E+02	1.0929E-02	1.1996E+00	4.2418E+04	3.0026E+01
4.1437E+02	1.0514E-02	1.1541E+00	4.0809E+04	2.9921E+01
4.1625E+02	1.0094E-02	1.1080E+00	3.9179E+04	2.9786E+01
4.1855E+02	9.6689E-03	1.0613E+00	3.7527E+04	2.9622E+01
4.2092E+02	9.4804E-03	1.0406E+00	3.6796E+04	2.9456E+01

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
4.2310E+02	9.2943E-03	1.0202E+00	3.6074E+04	2.9304E+01
4.2500E+02	9.1892E-03	1.0086E+00	3.5666E+04	2.9173E+01
4.5000E+02	5.2494E-03	5.7618E-01	2.0374E+04	2.7552E+01
5.0000E+02	4.1161E-03	4.5179E-01	1.5976E+04	2.4797E+01
6.0000E+02	2.6473E-03	2.9057E-01	1.0275E+04	2.0664E+01
7.0000E+02	1.7936E-03	1.9686E-01	6.9612E+03	1.7712E+01
8.0000E+02	1.2681E-03	1.3919E-01	4.9218E+03	1.5498E+01
9.0000E+02	9.2845E-04	1.0191E-01	3.6035E+03	1.3776E+01
1.0000E+03	6.9971E-04	7.6800E-02	2.7157E+03	1.2398E+01
1.2500E+03	3.8052E-04	4.1766E-02	1.4769E+03	9.9187E+00
1.5000E+03	2.2951E-04	2.5191E-02	8.9077E+02	8.2656E+00
1.7500E+03	1.4905E-04	1.6360E-02	5.7850E+02	7.0848E+00
2.0000E+03	1.0231E-04	1.1230E-02	3.9709E+02	6.1992E+00
2.2500E+03	7.1319E-05	7.8281E-03	2.7681E+02	5.5104E+00
2.5000E+03	5.2284E-05	5.7388E-03	2.0293E+02	4.9594E+00
2.7500E+03	3.9426E-05	4.3274E-03	1.5302E+02	4.5085E+00
3.0000E+03	3.0430E-05	3.3400E-03	1.1811E+02	4.1328E+00
3.5000E+03	1.9169E-05	2.1040E-03	7.4398E+01	3.5424E+00
4.0000E+03	1.2797E-05	1.4046E-03	4.9667E+01	3.0996E+00
4.5000E+03	8.9313E-06	9.8030E-04	3.4664E+01	2.7552E+00
5.0000E+03	6.4565E-06	7.0868E-04	2.5059E+01	2.4797E+00
6.0000E+03	3.6572E-06	4.0142E-04	1.4195E+01	2.0664E+00
7.0000E+03	2.2440E-06	2.4630E-04	8.7094E+00	1.7712E+00
8.0000E+03	1.4596E-06	1.6021E-04	5.6652E+00	1.5498E+00
9.0000E+03	9.9254E-07	1.0894E-04	3.8523E+00	1.3776E+00
1.0000E+04	7.1417E-07	7.8388E-05	2.7719E+00	1.2398E+00
1.2500E+04	3.4842E-07	3.8243E-05	1.3523E+00	9.9187E-01
1.5000E+04	1.9379E-07	2.1271E-05	7.5215E-01	8.2656E-01
1.7500E+04	1.1802E-07	1.2953E-05	4.5805E-01	7.0848E-01
2.0000E+04	7.6795E-08	8.4291E-06	2.9806E-01	6.1992E-01
2.2500E+04	5.2559E-08	5.7689E-06	2.0400E-01	5.5104E-01
2.5000E+04	3.7468E-08	4.1125E-06	1.4542E-01	4.9594E-01
2.7500E+04	2.7502E-08	3.0187E-06	1.0674E-01	4.5085E-01
3.0000E+04	2.0651E-08	2.2667E-06	8.0152E-02	4.1328E-01
3.5000E+04	1.2430E-08	1.3644E-06	4.8245E-02	3.5424E-01
4.0000E+04	8.0082E-09	8.7899E-07	3.1082E-02	3.0996E-01

Table II. Oscillator-strength density, df/dE , photoabsorption cross section, σ_a , and mass absorption coefficient, μ_m . (Continued)

Energy (eV)	f_n (eV ⁻¹)	σ_a (Mb)	μ_m (cm ² g ⁻¹)	λ (Å)
4.5000E+04	5.4337E-09	5.9641E-07	2.1089E-02	2.7552E-01
5.0000E+04	3.8408E-09	4.2157E-07	1.4907E-02	2.4797E-01
6.0000E+04	2.1072E-09	2.3128E-07	8.1784E-03	2.0664E-01
7.0000E+04	1.2684E-09	1.3922E-07	4.9231E-03	1.7712E-01
8.0000E+04	8.1707E-10	8.9682E-08	3.1712E-03	1.5498E-01
9.0000E+04	5.5415E-10	6.0824E-08	2.1508E-03	1.3776E-01
1.0000E+05	3.9134E-10	4.2954E-08	1.5189E-03	1.2398E-01

When photon energy, E , is higher than 10^5 eV, the photoabsorption cross section of each atom, σ_a , in Mb is given by

$$\sigma_a = 680 (Z_c - 0.3)^6 \left(\frac{Ry}{E} \right)^4 \frac{\exp[-4\chi \arctan(\chi^{-1})]}{1 - \exp(-2\pi\chi)} .$$

Here Z_c denotes the atomic number of constituent atoms and E is photon energy in eV. The quantity χ is given by

$$\chi = \sqrt{\frac{E_K}{E - E_K}} ,$$

where $E_K = 13.6$ and 405.6 eV for hydrogen and nitrogen atoms, respectively.

