```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%%%%%%%%%%%%%%%%%%%%%%
% Reduced ion mobility (cm2/V/s) at vanishing electric field strengths
at 273.16 K and 1 atm.
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%%%%%%%%%%%%%%%%%%%%%%

% Measured data  /  (n,6,4) potential  /  (n,6,4) potential with
K2=1.44 / Ion / Ref.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Neutral gas = He
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
19.9000   33.3188   23.2828  % N+     [5]
20.7000   29.3068   21.4634  % Ar+    [4]
22.5000   33.9384   22.6950  % O+     [4]
20.9000   26.6914   21.5109  % N2+    [5]
19.8000   27.7866   21.3709  % CO+    [4]
21.3000   28.9920   21.6362  % NO+    [4]
21.8000   29.4064   21.6658  % O2+    [4]
20.2000   27.3674   21.2017  % HCO+   [4]
19.4000   27.7113   21.2270  % HO2+   [4]
23.0000   29.8986   22.5016  % NH3+   [4]
21.9000   28.6280   22.0652  % NH4+   [4]
18.5000   26.5583   20.7946  % H2O2+  [4]
17.0000   22.4382   18.6342  % CH3O2+ [1]
21.5000   27.5753   21.1231  % O2-    [1]
24.3000   29.4536   22.3035  % OH-    [5]
18.6000   23.7940   19.3390  % O3-    [1]
18.6000   24.2889   19.6098  % NO2-   [3]
21.5000   29.9098   21.2928  % H3O+   [6]
18.6000   24.5916   19.8169  % N2O+   [3]

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Neutral gas = Ar
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
3.4300    4.6702    3.2124 % O+       [1]
2.5700    3.6640    2.4753 % O2+      [1]
2.4200    3.0692    1.9649 % O3-      [1]
2.4900    3.7298    2.5058 % HCO+     [1]
2.6500    4.3999    2.9795 % H2O+     [1]
2.1500    3.3119    2.2229 % N2O+     [1]
2.2400    3.2879    2.2062 % NO2+     [1]
3.1500    3.3547    2.2733 % H3O+     [1]

%%%%%%%%%%%%%%%%%%%%%%
% Neutral gas = N2
%%%%%%%%%%%%%%%%%%%%%%
2.1800    2.9733    2.0682 % CO2+     [2]
2.1400    3.3087    2.3006 % N2H+     [2]
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2.7600    3.7698    2.6267 % H3O+     [2]

%%%%%%%%%%%%%%%%%%%%
% Neutral gas = Ne
%%%%%%%%%%%%%%%%%%%%
7.8000   14.7961    9.8962 % H2O+     [3]
8.2500   12.8458    8.7078 % O2+      [3]
7.0000   10.9442    8.1282 % N2O+     [3]
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REFERENCES

[1] I.Dotan, W.Lindinger and D.L.Albritton, 'Mobilities of various mass-idensitified positive and negative ions in helium and argon', J. Chem. Phys. 64, 4544 (1976).

[2] I.Dotan and D.L.Albritton, 'Mobilities of CO2+, N2H+, H3O+, H3O+.H2O and H3O+.(H2O)2 ions in N2', J. Chem. Phys. 65, 5028 (1976).

[3] H.Bohringer, M.DurupFerguson, and D.W.Fahey, 'Mobilities of various massidentified positive ions in helium, neon and argon', J. Chem. Phys. 79, 1974 (1983).

[4] W.Lindinger and D.L.Albritton, 'Mobilities of various mass-identified positive ions in helium and argon', J.Chem.Phys. 62, 3517 (1975).

[5] M.McFarland, D.L.Albritton, F.C.Fehsenfeld, E.E.Ferguson and A.L.Schmeltekopf, 'Flow-drift technique for ion mobility and ion-molecule reaction rate constant measurements. I.Apparatus and mobility measurements', J. Chem. Phys. 59, 6610 (1973).

[6] E.Graham IV, D.R.James, W.C.Keever, D.L.Albritton and E.W.McDaniel, 'Mobilities and longitudinal diffusion coefficients of mass-identified hydrogen ions in H2 and deuterium ions in D2 gas', J. Chem. Phys. 59, 3477 (1973).