Table 1: Photodissociation and photoionization reactions

Species	**Reaction**	**Source**
AlO	AlO + photon → Al + O	Berezhnoy & Klumov 2008
C	C + photon → C^+ + e	Huebner et al. 1992
C	C + photon → C^+ + e	Huebner & Mukherjee 2011
CH_4	CH_4 + photon → CH + H_2	Huebner & Mukherjee 2011
CH_4	CH_4 + photon → CH + H_2	Huebner et al. 1992
CH_4	CH_4 + photon → CH_2 + H	Huebner & Mukherjee 2011
CH_4	CH_4 + photon → CH_2 + H	Huebner et al. 1992
CH_4	CH_4 + photon → CH_2 + H_2	Huebner et al. 1992
CH_4	CH_4 + photon → CH_2 + H_2	Huebner & Mukherjee 2011
CH_4	CH_4 + photon → CH_3 + H	Huebner & Mukherjee 2011
CH_4	CH_4 + photon → CH_3 + H	Huebner et al. 1992
CH_4	CH_4 + photon → CH_3 + H^+	Huebner et al. 1992
CH_4	CH_4 + photon → CH_3 + H^+	Huebner & Mukherjee 2011
CH_4	CH_4 + photon → CH_4^+ + e	Huebner et al. 1992
CH_4	CH_4 + photon → CH_4^+ + e	Huebner & Mukherjee 2011
CH_4	CH_4 + photon → H + CH_3^+	Huebner & Mukherjee 2011
CH_4	CH_4 + photon → H + CH_3^+	Huebner et al. 1992
CH_4	CH_4 + photon → H_2 + CH_2^+	Huebner et al. 1992
CH_4	CH_4 + photon → H_2 + CH_2^+	Huebner & Mukherjee 2011
CH_4	CH_4 + photon → H_2 + CH_2	Huebner et al. 1992
CH_4	CH_4 + photon → H_2 + H	Huebner et al. 1992
CH_4	CH_4 + photon → H_2 + H	Huebner & Mukherjee 2011
CO_2	CO_2 + photon → CO + O	Huebner et al. 1992
CO_2	CO_2 + photon → CO + O	Huebner & Mukherjee 2011
CO_2	CO_2 + photon → CO + O^+	Huebner et al. 1992
CO_2	CO_2 + photon → CO + O^+	Huebner & Mukherjee 2011
CO_2	CO_2 + photon → CO_2^+ + e	Huebner & Mukherjee 2011
CO_2	CO_2 + photon → CO_2^+ + e	Huebner et al. 1992
CO_2	CO_2 + photon → O + CO^+	Huebner et al. 1992
CO_2	CO_2 + photon → O + CO^+	Huebner & Mukherjee 2011
CO_2	CO_2 + photon → O_2 + C^+	Huebner et al. 1992
CO_2	CO_2 + photon → O_2 + C^+	Huebner & Mukherjee 2011
Ca	Ca + photon → Ca^+ + e	Huebner et al. 1992
Ca	Ca + photon → Ca^+ + e	Huebner & Mukherjee 2011
$Ca(OH)_2$	$Ca(OH)_2$ + photon → CaOH + OH	Berezhnoy 2013
CaO	CaO + photon → Ca + O	Berezhnoy 2013
CaO	CaO + photon → Ca + O	Berezhnoy & Klumov 2008
CaOH	CaOH + photon → Ca + OH	Berezhnoy 2013
CaOH	CaOH + photon → CaO + H	Berezhnoy 2013
Cl	Cl + photon → Cl^+ + e	Huebner et al. 1992
Cl	Cl + photon → Cl^+ + e	Huebner & Mukherjee 2011

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Species	Reaction	Source
FeO	FeO + photon → Fe + O	Berezhnoy & Klumov 2008
H	H + photon → H^+ + e	Huebner et al. 1992
H	H + photon → H^+ + e	Huebner & Mukherjee 2011
H_2	H_2 + photon → H + H	Huebner & Mukherjee 2011
H_2	H_2 + photon → H + H	Huebner et al. 1992
H_2	H_2 + photon → H + H^+	Huebner et al. 1992
H_2	H_2 + photon → H + H^+	Huebner & Mukherjee 2011
H_2	H_2 + photon → H_2^+ + e	Huebner & Mukherjee 2011
H_2	H_2 + photon → H_2^+ + e	Huebner et al. 1992
H_2O	H_2O + photon → H + H	Huebner & Mukherjee 2011
H_2O	H_2O + photon → H + H	Huebner et al. 1992
H_2O	H_2O + photon → H + OH^+	Huebner et al. 1992
H_2O	H_2O + photon → H + OH^+	Huebner & Mukherjee 2011
H_2O	H_2O + photon → H_2 + O	Huebner et al. 1992
H_2O	H_2O + photon → H_2 + O	Huebner & Mukherjee 2011
H_2O	H_2O + photon → H_2 + O^+	Huebner et al. 1992
H_2O	H_2O + photon → H_2 + O^+	Huebner & Mukherjee 2011
H_2O	H_2O + photon → H_2O^+ + e	Huebner et al. 1992
H_2O	H_2O + photon → H_2O^+ + e	Huebner & Mukherjee 2011
H_2O	H_2O + photon → OH + H	Huebner & Mukherjee 2011
H_2O	H_2O + photon → OH + H	Huebner et al. 1992
H_2O	H_2O + photon → OH + H^+	Huebner et al. 1992
H_2O	H_2O + photon → OH + H^+	Huebner & Mukherjee 2011
He	He + photon → He^+ + e	Huebner et al. 1992
He	He + photon → He^+ + e	Huebner & Mukherjee 2011
K	K + photon → K^+ + e	Huebner et al. 1992
K	K + photon → K^+ + e	Huebner & Mukherjee 2011
KO	KO + photon → K + O	Berezhnoy & Klumov 2008
Mg	Mg + photon → Mg^+ + e	Huebner & Mukherjee 2011
Mg	Mg + photon → Mg^+ + e	Huebner et al. 1992
MgO	MgO + photon → Mg + O	Berezhnoy & Klumov 2008
N	N + photon → N^+ + e	Huebner & Mukherjee 2011
N	N + photon → N^+ + e	Huebner et al. 1992
NH_3	NH_3 + photon → H + NH_2^+	Huebner & Mukherjee 2011
NH_3	NH_3 + photon → H + NH_2^+	Huebner et al. 1992
NH_3	NH_3 + photon → H_2 + H	Huebner & Mukherjee 2011
NH_3	NH_3 + photon → H_2 + H	Huebner et al. 1992
NH_3	NH_3 + photon → H_2 + NH^+	Huebner & Mukherjee 2011
NH_3	NH_3 + photon → H_2 + NH^+	Huebner et al. 1992
NH_3	NH_3 + photon → NH + H	Huebner et al. 1992
NH_3	NH_3 + photon → NH + H	Huebner & Mukherjee 2011
NH_3	NH_3 + photon → NH + H_2	Huebner et al. 1992

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Species	Reaction	Source
NH_3	NH_3 + photon → NH + H_2	Huebner & Mukherjee 2011
NH_3	NH_3 + photon → NH_2 + H	Huebner et al. 1992
NH_3	NH_3 + photon → NH_2 + H	Huebner & Mukherjee 2011
NH_3	NH_3 + photon → NH_2 + H^+	Huebner et al. 1992
NH_3	NH_3 + photon → NH_2 + H^+	Huebner & Mukherjee 2011
NH_3	NH_3 + photon → NH_3^+ + e	Huebner et al. 1992
NH_3	NH_3 + photon → NH_3^+ + e	Huebner & Mukherjee 2011
N_2	N_2 + photon → N + N	Huebner et al. 1992
N_2	N_2 + photon → N + N	Huebner & Mukherjee 2011
N_2	N_2 + photon → N + N^+	Huebner & Mukherjee 2011
N_2	N_2 + photon → N + N^+	Huebner et al. 1992
N_2	N_2 + photon → N_2^+ + e	Huebner et al. 1992
N_2	N_2 + photon → N_2^+ + e	Huebner & Mukherjee 2011
Na	Na + photon → Na^+ + e	Huebner et al. 1992
Na	Na + photon → Na^+ + e	Huebner & Mukherjee 2011
O	O + photon → O^+ + e	Huebner & Mukherjee 2011
O	O + photon → O^+ + e	Huebner et al. 1992
OH	OH + photon → O + H	Huebner & Mukherjee 2011
OH	OH + photon → O + H	Huebner et al. 1992
OH	OH + photon → OH^+ + e	Huebner et al. 1992
OH	OH + photon → OH^+ + e	Huebner & Mukherjee 2011
O_2	O_2 + photon → O + O	Huebner et al. 1992
O_2	O_2 + photon → O + O	Huebner & Mukherjee 2011
O_2	O_2 + photon → O + O^+	Huebner et al. 1992
O_2	O_2 + photon → O + O^+	Huebner & Mukherjee 2011
O_2	O_2 + photon → O_2^+ + e	Huebner & Mukherjee 2011
O_2	O_2 + photon → O_2^+ + e	Huebner et al. 1992
S	S + photon → S^+ + e	Huebner & Mukherjee 2011
S	S + photon → S^+ + e	Huebner et al. 1992
SO	SO + photon → S + O	Huebner et al. 1992
SO	SO + photon → S + O	Huebner & Mukherjee 2011
SO	SO + photon → SO^+ + e	Huebner et al. 1992
SO	SO + photon → SO^+ + e	Huebner & Mukherjee 2011
SO_2	SO_2 + photon → S^+ + O_2	Huebner & Mukherjee 2011
SO_2	SO_2 + photon → S^+ + O_2	Huebner et al. 1992
SO_2	SO_2 + photon → SO + O	Huebner et al. 1992
SO_2	SO_2 + photon → SO + O	Huebner & Mukherjee 2011
SO_2	SO_2 + photon → SO_2^+ + e	Huebner & Mukherjee 2011
SO_2	SO_2 + photon → SO_2^+ + e	Huebner et al. 1992
SiO	SiO + photon → Si + O	Berezhnoy & Klumov 2008
TiO	TiO + photon → Ti + O	Berezhnoy & Klumov 2008