KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
O2	1.3E-3	Wilhelm et al. (1977)	1500.	???
O3	1.2E-2	Chameides (1984)	2560.	???
H	-9.99999	???	-9.99999	???
H2	-9.99999	???	-9.99999	???
OH	3.0E1	Hanson et al. (1992)	4300.	???
HO2	3.9E3	Hanson et al. (1992)	5900.	???
H2O	BIG_DP	see notes	0.	???
H2O2	1.E5	Lind and Kok (1994)	6338.	???
NH3	58.	Chameides (1984)	4085.	???
NO	1.9E-3	Schwartz and White (1981)	1480.	???
NO2	7.0E-3	Lee and Schwartz (1981)	2500.	???
NO3	2.	Thomas et al. (1993)	2000.	???
N2O5	BIG_DP	see notes	0.	???
HONO	4.9E1	Schwartz and White (1981)	4780.	???
HNO3	2.45E6/1.5E1	Brimblecombe and Clegg (1989)	8694.	???
HNO4	1.2E4	Régimbal and Mozurkewich (1997)	6900.	???
NH2	-9.99999	???	-9.99999	???
HNO	-9.99999	???	-9.99999	???
NHOH	-9.99999	???	-9.99999	???
NH2O	-9.99999	???	-9.99999	???
NH2OH	-9.99999	???	-9.99999	???
CH4	-9.99999	???	-9.99999	???
CH3	-9.99999	???	-9.99999	???
CH3O	-9.99999	???	-9.99999	???
CO	-9.99999	???	-9.99999	???
CO2	3.1E-2	Chameides (1984)	2423.	???
HCHO	7.0E3	Chameides (1984)	6425.	???
HCOOH	3.7E3	Chameides (1984)	5700.	???
CH3O2	6.	Jacob (1986)	5600.	???
HOCH2O2	-9.99999	???	-9.99999	???
CH3OH	2.20E2	Snider and Dawson (1985)	5200.	???
CH3OOH	3.0E2	Lind and Kok (1994)	5322.	???
HOCH2OOH	-9.99999	???	-9.99999	???
HOCH2OH	-9.99999	???	-9.99999	???
CH3ONO	-9.99999	???	-9.99999	???
CH3NO3	-9.99999	???	-9.99999	???
CH3O2NO2	-9.99999	???	-9.99999	???
HOCH2O2NO2	-9.99999	???	-9.99999	???
HCN	-9.99999	???	-9.99999	???
CH2CO	-9.99999	???	-9.99999	???
GLYOX	4.19E5	Sander et al. (2011)	7481.	???
HCOCO2H	1.09E4	Ip et al. (2009)	4800.	???
HCOCO3H	-9.99999	???	-9.99999	???
CH2CHOH	-9.99999	???	-9.99999	???
CH3CHO	1.29E1	Sander et al. (2006)	5890.	???
CH3CO2H	4.1E3	Sander et al. (2006)	6200.	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
HOCH2CHO	4.10E4	Betterton and Hoffmann (1988)	4600.	???
HOOCH2CHO	-9.99999	???	-9.99999	???
CH3CO3H	-9.99999	???	-9.99999	???
HOCH2CO2H	2.83E4	Ip et al. (2009)	4029.	???
HOCH2CO3H	-9.99999	???	-9.99999	???
HOOCH2CO2H	-9.99999	???	-9.99999	???
HOOCH2CO3H	-9.99999	???	-9.99999	???
C2H5O2	6.	see notes	5600.	???
C2H5OH	-9.99999	???	-9.99999	???
C2H5OOH	-9.99999	???	-9.99999	???
ETHGLY	-9.99999	???	-9.99999	???
HYETHO2H	-9.99999	???	-9.99999	???
CH3CHOHOOH	-9.99999	???	-9.99999	???
NO3CH2PAN	-9.99999	???	-9.99999	???
CH3CN	-9.99999	???	-9.99999	???
NO3CH2CHO	-9.99999	???	-9.99999	???
PAN	2.8	Sander et al. (2006)	5730.	???
PHAN	-9.99999	???	-9.99999	???
ETHOHNO3	-9.99999	???	-9.99999	???
C2H5NO3	-9.99999	???	-9.99999	???
C2H5O2NO2	-9.99999	???	-9.99999	???
OXL	3.2E6	Brimblecombe et al. (1992)	7285.	???
C33CO	-9.99999	???	-9.99999	???
ALCOCH2OOH	-9.99999	???	-9.99999	???
MGLYOX	3.70E3	Betterton and Hoffmann (1988)	7500.	???
HOCH2COCHO	-9.99999	???	-9.99999	???
HCOCH2CHO	-9.99999	???	-9.99999	???
HCOCH2CO2H	-9.99999	???	-9.99999	???
HCOCH2CO3H	-9.99999	???	-9.99999	???
CH3COCH3	28.1	Sander et al. (2006)	5050.	???
ACETOL	-9.99999	???	-9.99999	???
HYPERACET	-9.99999	???	-9.99999	???
HOC2H4CO2H	-9.99999	???	-9.99999	???
HOC2H4CO3H	-9.99999	???	-9.99999	???
IC3H7OOH	-9.99999	???	-9.99999	???
HYPROPO2H	-9.99999	???	-9.99999	???
CH3CHCO	-9.99999	???	-9.99999	???
CH3COCO2H	3.11E5	Sander et al. (2011)	5090.	???
CH3COCO3H	-9.99999	???	-9.99999	???
HCOCOCH2OOH	-9.99999	???	-9.99999	???
C2H5CHO	-9.99999	???	-9.99999	???
PROPENOL	-9.99999	???	-9.99999	???
C2H5CO2H	5.7E3	Khan et al. (1995)	6800.	Abraham (1984)
C2H5CO3H	-9.99999	???	-9.99999	???
HOCH2COCH2OOH	-9.99999	???	-9.99999	???
IPROPOL	-9.99999	???	-9.99999	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
NPROPOL	-9.99999	???	-9.99999	???
NC3H7OOH	-9.99999	???	-9.99999	???
C3DIALOOH	-9.99999	???	-9.99999	???
METACETHO	-9.99999	???	-9.99999	???
C32OH13CO	-9.99999	???	-9.99999	???
HCOCOHCO3H	-9.99999	???	-9.99999	???
C3PAN2	-9.99999	???	-9.99999	???
NOA	-9.99999	???	-9.99999	???
CH3COCH2O2NO2	-9.99999	???	-9.99999	???
PPN	-9.99999	???	-9.99999	???
C3PAN1	-9.99999	???	-9.99999	???
NC3H7NO3	-9.99999	???	-9.99999	???
IC3H7NO3	-9.99999	???	-9.99999	???
PROPOLNO3	-9.99999	???	-9.99999	???
PR2O2HNO3	-9.99999	???	-9.99999	???
HCOCOHPAN	-9.99999	???	-9.99999	???
HCOCCH3CO	-9.99999	???	-9.99999	???
CH3COCHCO	-9.99999	???	-9.99999	???
C4CODIAL	-9.99999	???	-9.99999	???
CO23C3CHO	-9.99999	???	-9.99999	???
C312COCO3H	-9.99999	???	-9.99999	???
CO2H3CHO	-9.99999	???	-9.99999	???
BIACETO2	-9.99999	???	-9.99999	???
CHOC3COO2	-9.99999	???	-9.99999	???
MACR	-9.99999	???	-9.99999	???
MVK	-9.99999	???	-9.99999	???
BIACET	-9.99999	???	-9.99999	???
MACO2H	2.58E3	Khan et al. (1992)	0.	???
HVMK	-9.99999	???	-9.99999	???
HMAC	-9.99999	???	-9.99999	???
CO2C3CHO	-9.99999	???	-9.99999	???
IBUTDIAL	-9.99999	???	-9.99999	???
MACO3H	-9.99999	???	-9.99999	???
BIACETOH	-9.99999	???	-9.99999	???
CH3COOHCHCHO	-9.99999	???	-9.99999	???
HCOCCH3CHOOH	-9.99999	???	-9.99999	???
C413COOOH	-9.99999	???	-9.99999	???
BIACETOOH	-9.99999	???	-9.99999	???
CH3COCOCO2H	-9.99999	???	-9.99999	???
CO2H3CO2H	-9.99999	???	-9.99999	???
C44OOH	-9.99999	???	-9.99999	???
CO2H3CO3H	-9.99999	???	-9.99999	???
MACRN	-9.99999	???	-9.99999	???
MVKNO3	-9.99999	???	-9.99999	???
PIPN	-9.99999	???	-9.99999	???
MEK	-9.99999	???	-9.99999	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
HO12CO3C4	-9.99999	???	-9.99999	???
MACROH	-9.99999	???	-9.99999	???
MACROOH	-9.99999	???	-9.99999	???
BUTENOL	-9.99999	???	-9.99999	???
C3H7CHO	-9.99999	???	-9.99999	???
IPRCHO	-9.99999	???	-9.99999	???
MPROPENOL	-9.99999	???	-9.99999	???
IBUTALOH	-9.99999	???	-9.99999	???
BUT2OLO	-9.99999	???	-9.99999	???
PERIBUACID	-9.99999	???	-9.99999	???
IPRHOCO2H	-9.99999	???	-9.99999	???
IPRHOCO3H	-9.99999	???	-9.99999	???
IC4H9NO3	-9.99999	???	-9.99999	???
TC4H9NO3	-9.99999	???	-9.99999	???
BUT2OLNO3	-9.99999	???	-9.99999	???
TC4H9OOH	-9.99999	???	-9.99999	???
IC4H9OOH	-9.99999	???	-9.99999	???
IBUTOLBOOH	-9.99999	???	-9.99999	???
BUT2OLOOH	-9.99999	???	-9.99999	???
MALANHY	-9.99999	???	-9.99999	???
CO2C4DIAL	-9.99999	???	-9.99999	???
MALNHYOHCO	-9.99999	???	-9.99999	???
BZFUONE	-9.99999	???	-9.99999	???
MALDIAL	-9.99999	???	-9.99999	???
MALDALCO2H	-9.99999	???	-9.99999	???
EPXC4DIAL	-9.99999	???	-9.99999	???
HOCOC4DIAL	-9.99999	???	-9.99999	???
MALDALCO3H	-9.99999	???	-9.99999	???
BZFUCO	-9.99999	???	-9.99999	???
EPXDLCO2H	-9.99999	???	-9.99999	???
CO14O3CHO	-9.99999	???	-9.99999	???
CO14O3CO2H	-9.99999	???	-9.99999	???
EPXDLCO3H	-9.99999	???	-9.99999	???
MALANHYOOH	-9.99999	???	-9.99999	???
MALDIALOOH	-9.99999	???	-9.99999	???
BZFUOOH	-9.99999	???	-9.99999	???
MECOACEOOH	-9.99999	???	-9.99999	???
C312COPAN	-9.99999	???	-9.99999	???
MPAN	-9.99999	???	-9.99999	???
IBUTOLBNO3	-9.99999	???	-9.99999	???
C4PAN5	-9.99999	???	-9.99999	???
NC4DCO2H	-9.99999	???	-9.99999	???
MALDIALPAN	-9.99999	???	-9.99999	???
NBZFUONE	-9.99999	???	-9.99999	???
EPXDLPAN	-9.99999	???	-9.99999	???
NBZFUOOH	-9.99999	???	-9.99999	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
LMEKOOH	-9.99999	???	-9.99999	???
LHMVKABOOH	-9.99999	???	-9.99999	???
LC4H9OOH	-9.99999	???	-9.99999	???
LBUT1ENOOH	-9.99999	???	-9.99999	???
LMEKNO3	-9.99999	???	-9.99999	???
LC4H9NO3	-9.99999	???	-9.99999	???
LBUT1ENNO3	-9.99999	???	-9.99999	???
ME3FURAN	-9.99999	???	-9.99999	???
ZCODC23DBCOD	-9.99999	???	-9.99999	???
CO13C4CHO	-9.99999	???	-9.99999	???
CO23C4CHO	-9.99999	???	-9.99999	???
ZCO3HC23DBCOD	-9.99999	???	-9.99999	???
C513CO	-9.99999	???	-9.99999	???
CHOC3COOOH	-9.99999	???	-9.99999	???
CO23C4CO3H	-9.99999	???	-9.99999	???
C5H8	-9.99999	???	-9.99999	???
HCOC5	-9.99999	???	-9.99999	???
ZCODC23DBCOOH	-9.99999	???	-9.99999	???
MBOCOCO	-9.99999	???	-9.99999	???
C511OOH	-9.99999	???	-9.99999	???
C514OOH	-9.99999	???	-9.99999	???
C512OOH	-9.99999	???	-9.99999	???
C1ODC2OOHC4OD	-9.99999	???	-9.99999	???
C513OOH	-9.99999	???	-9.99999	???
C1ODC2O2C4OOH	-9.99999	???	-9.99999	???
C1ODC3O2C4OOH	-9.99999	???	-9.99999	???
MBO	-9.99999	???	-9.99999	???
ISOPAOH	-9.99999	???	-9.99999	???
ISOPBOH	-9.99999	???	-9.99999	???
ISOPDOH	-9.99999	???	-9.99999	???
ISOPBOOH	-9.99999	???	-9.99999	???
ISOPDOOH	-9.99999	???	-9.99999	???
MBOACO	-9.99999	???	-9.99999	???
DB1OOH	-9.99999	???	-9.99999	???
C59OOH	-9.99999	???	-9.99999	???
C1OOHC2OOHC4OD	-9.99999	???	-9.99999	???
DB2OOH	-9.99999	???	-9.99999	???
C4CO2DBCO3	-9.99999	???	-9.99999	???
MMALANHY	-9.99999	???	-9.99999	???
C54CO	-9.99999	???	-9.99999	???
C4CO2DCO3H	-9.99999	???	-9.99999	???
C5DIALCO	-9.99999	???	-9.99999	???
ACCOMECO3	-9.99999	???	-9.99999	???
MMALANHYO2	-9.99999	???	-9.99999	???
TLFUONE	-9.99999	???	-9.99999	???
C5DICARB	-9.99999	???	-9.99999	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
MC3ODBCO2H	-9.99999	???	-9.99999	???
C5CO14OH	-9.99999	???	-9.99999	???
C5134CO2OH	-9.99999	???	-9.99999	???
C5DIALOOH	-9.99999	???	-9.99999	???
ACCOMECHO	-9.99999	???	-9.99999	???
C5CO14OOH	-9.99999	???	-9.99999	???
C24O3CCO2H	-9.99999	???	-9.99999	???
MMALNHYOOH	-9.99999	???	-9.99999	???
ACCOMECO3H	-9.99999	???	-9.99999	???
TLFUOOH	-9.99999	???	-9.99999	???
C5DICAROOH	-9.99999	???	-9.99999	???
CHOC3COPAN	-9.99999	???	-9.99999	???
ZCPANC23DBCOD	-9.99999	???	-9.99999	???
C5PAN9	-9.99999	???	-9.99999	???
NC4CHO	-9.99999	???	-9.99999	???
C514NO3	-9.99999	???	-9.99999	???
NC4OHCPAN	-9.99999	???	-9.99999	???
ISOPBNO3	-9.99999	???	-9.99999	???
ISOPDNO3	-9.99999	???	-9.99999	???
NISOPOOH	-9.99999	???	-9.99999	???
NMBOBCO	-9.99999	???	-9.99999	???
C4MCONO3OH	-9.99999	???	-9.99999	???
DB1NO3	-9.99999	???	-9.99999	???
NC4OHCO3H	-9.99999	???	-9.99999	???
C4CO2DBPAN	-9.99999	???	-9.99999	???
NC4MDCO2H	-9.99999	???	-9.99999	???
C5COO2NO2	-9.99999	???	-9.99999	???
ACCOMEPAN	-9.99999	???	-9.99999	???
NTLFUOOH	-9.99999	???	-9.99999	???
LHC4ACCHO	-9.99999	???	-9.99999	???
LHC4ACCO2H	-9.99999	???	-9.99999	???
LHC4ACCO3H	-9.99999	???	-9.99999	???
LIEPOX	-9.99999	???	-9.99999	???
LISOPACOOH	-9.99999	???	-9.99999	???
LC578OOH	-9.99999	???	-9.99999	???
LMBOABOOH	-9.99999	???	-9.99999	???
LC5PAN1719	-9.99999	???	-9.99999	???
LISOPACNO3	-9.99999	???	-9.99999	???
LNMBOABOOH	-9.99999	???	-9.99999	???
LMBOABNO3	-9.99999	???	-9.99999	???
LNISOOH	-9.99999	???	-9.99999	???
C614CO	-9.99999	???	-9.99999	???
CO235C6OOH	-9.99999	???	-9.99999	???
C614OOH	-9.99999	???	-9.99999	???
PBZQONE	-9.99999	???	-9.99999	???
CATECHOL	-9.99999	???	-9.99999	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
C6CO4DB	-9.99999	???	-9.99999	???
PBZQCO	-9.99999	???	-9.99999	???
C6H5O	-9.99999	???	-9.99999	???
CATEC1O	-9.99999	???	-9.99999	???
C5CO2DBCO3	-9.99999	???	-9.99999	???
C5CO2DCO3H	-9.99999	???	-9.99999	???
C5CO2OHCO3	-9.99999	???	-9.99999	???
BENZENE	-9.99999	???	-9.99999	???
PHENOL	-9.99999	???	-9.99999	???
C6H5OOH	-9.99999	???	-9.99999	???
BZEPOXMUC	-9.99999	???	-9.99999	???
C6125CO	-9.99999	???	-9.99999	???
CATEC1OOH	-9.99999	???	-9.99999	???
BZEMUCCO2H	-9.99999	???	-9.99999	???
BZOBIPEROH	-9.99999	???	-9.99999	???
BZEMUCCO	-9.99999	???	-9.99999	???
PBZQOOH	-9.99999	???	-9.99999	???
BZEMUCCO3H	-9.99999	???	-9.99999	???
C5COOHCO3H	-9.99999	???	-9.99999	???
C615CO2OOH	-9.99999	???	-9.99999	???
BZBIPEROOH	-9.99999	???	-9.99999	???
PHENOOH	-9.99999	???	-9.99999	???
BZEMUCOOH	-9.99999	???	-9.99999	???
C614NO3	-9.99999	???	-9.99999	???
NPHEN1O	-9.99999	???	-9.99999	???
DNPHEN	-9.99999	???	-9.99999	???
HOC6H4NO2	-9.99999	???	-9.99999	???
NCATECHOL	-9.99999	???	-9.99999	???
NPHEN1OOH	-9.99999	???	-9.99999	???
BZEMUCPAN	-9.99999	???	-9.99999	???
C5CO2DBPAN	-9.99999	???	-9.99999	???
NBZQOOH	-9.99999	???	-9.99999	???
C5CO2OHPAN	-9.99999	???	-9.99999	???
NDNPHENOOH	-9.99999	???	-9.99999	???
DNPHENOOH	-9.99999	???	-9.99999	???
NNCATECOOH	-9.99999	???	-9.99999	???
BZBIPERNO3	-9.99999	???	-9.99999	???
BZEMUCNO3	-9.99999	???	-9.99999	???
NPHENOOH	-9.99999	???	-9.99999	???
NCATECOOH	-9.99999	???	-9.99999	???
CO235C6CHO	-9.99999	???	-9.99999	???
C235C6CO3H	-9.99999	???	-9.99999	???
C716OOH	-9.99999	???	-9.99999	???
C721OOH	-9.99999	???	-9.99999	???
C722OOH	-9.99999	???	-9.99999	???
BENZAL	-9.99999	???	-9.99999	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
PHCOOH	1.4E4	Goldstein (1982)	6500.	???
PTLQONE	-9.99999	???	-9.99999	???
C6H5CO3H	-9.99999	???	-9.99999	???
C7CO4DB	-9.99999	???	-9.99999	???
PTLQCO	-9.99999	???	-9.99999	???
TOL1O	-9.99999	???	-9.99999	???
MCATEC1O	-9.99999	???	-9.99999	???
TOLUENE	-9.99999	???	-9.99999	???
CRESOL	-9.99999	???	-9.99999	???
OXYL1OOH	-9.99999	???	-9.99999	???
C6H5CH2OOH	-9.99999	???	-9.99999	???
MCATECHOL	-9.99999	???	-9.99999	???
TLEPOXMUC	-9.99999	???	-9.99999	???
MCATEC1OOH	-9.99999	???	-9.99999	???
TLEMUCCO2H	-9.99999	???	-9.99999	???
TLOBIPEROH	-9.99999	???	-9.99999	???
PTLQOOH	-9.99999	???	-9.99999	???
TLEMUCCO	-9.99999	???	-9.99999	???
TLEMUCCO3H	-9.99999	???	-9.99999	???
C6COOHCO3H	-9.99999	???	-9.99999	???
TLBIPEROOH	-9.99999	???	-9.99999	???
CRESOOH	-9.99999	???	-9.99999	???
TLEMUCOOH	-9.99999	???	-9.99999	???
C7PAN3	-9.99999	???	-9.99999	???
PBZN	-9.99999	???	-9.99999	???
NCRES1O	-9.99999	???	-9.99999	???
DNCRES	-9.99999	???	-9.99999	???
TOL1OHNO2	-9.99999	???	-9.99999	???
C6H5CH2NO3	-9.99999	???	-9.99999	???
MNCATECH	-9.99999	???	-9.99999	???
NCRES1OOH	-9.99999	???	-9.99999	???
NPTLQOOH	-9.99999	???	-9.99999	???
TLEMUCPAN	-9.99999	???	-9.99999	???
C6CO2OHPAN	-9.99999	???	-9.99999	???
NDNCRESOOH	-9.99999	???	-9.99999	???
DNCRESOOH	-9.99999	???	-9.99999	???
MNNCATCOOH	-9.99999	???	-9.99999	???
TLBIPERNO3	-9.99999	???	-9.99999	???
TLEMUCNO3	-9.99999	???	-9.99999	???
NCRESOOH	-9.99999	???	-9.99999	???
MNCATECOOH	-9.99999	???	-9.99999	???
C8BCCO	-9.99999	???	-9.99999	???
C8BCOOH	-9.99999	???	-9.99999	???
C721CHO	-9.99999	???	-9.99999	???
NORPINIC	-9.99999	???	-9.99999	???
C721CO3H	-9.99999	???	-9.99999	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
C8BC	-9.99999	???	-9.99999	???
C85OOH	-9.99999	???	-9.99999	???
C86OOH	-9.99999	???	-9.99999	???
C812OOH	-9.99999	???	-9.99999	???
C813OOH	-9.99999	???	-9.99999	???
C89OOH	-9.99999	???	-9.99999	???
C810OOH	-9.99999	???	-9.99999	???
STYRENE	-9.99999	???	-9.99999	???
LXYL	-9.99999	???	-9.99999	???
EBENZ	-9.99999	???	-9.99999	???
STYRENOOH	-9.99999	???	-9.99999	???
C8BCNO3	-9.99999	???	-9.99999	???
C721PAN	-9.99999	???	-9.99999	???
C89NO3	-9.99999	???	-9.99999	???
C810NO3	-9.99999	???	-9.99999	???
NSTYRENOOH	-9.99999	???	-9.99999	???
NOPINDCO	-9.99999	???	-9.99999	???
C85CO3H	-9.99999	???	-9.99999	???
NOPINONE	-9.99999	???	-9.99999	???
NOPINOO	-9.99999	???	-9.99999	???
NORPINAL	-9.99999	???	-9.99999	???
NORPINENOL	-9.99999	???	-9.99999	???
C89CO2H	-9.99999	???	-9.99999	???
NOPINDOOH	-9.99999	???	-9.99999	???
RO6R3P	-9.99999	???	-9.99999	???
C89CO3H	-9.99999	???	-9.99999	???
PINIC	-9.99999	???	-9.99999	???
C811CO3H	-9.99999	???	-9.99999	???
C96OOH	-9.99999	???	-9.99999	???
C97OOH	-9.99999	???	-9.99999	???
C98OOH	-9.99999	???	-9.99999	???
C89PAN	-9.99999	???	-9.99999	???
C9PAN2	-9.99999	???	-9.99999	???
C811PAN	-9.99999	???	-9.99999	???
C96NO3	-9.99999	???	-9.99999	???
LTMB	-9.99999	???	-9.99999	???
C109CO	-9.99999	???	-9.99999	???
PINALOOH	-9.99999	???	-9.99999	???
APINENE	-9.99999	???	-9.99999	???
BPINENE	-9.99999	???	-9.99999	???
CARENE	-9.99999	???	-9.99999	???
SABINENE	-9.99999	???	-9.99999	???
CAMPHENE	-9.99999	???	-9.99999	???
PINAL	-9.99999	???	-9.99999	???
PINENOL	-9.99999	???	-9.99999	???
MENTHEN6ONE	-9.99999	???	-9.99999	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
PINONIC	-9.99999	???	-9.99999	???
C109OOH	-9.99999	???	-9.99999	???
PERPINONIC	-9.99999	???	-9.99999	???
C106OOH	-9.99999	???	-9.99999	???
OH2MENTHEN6ONE	-9.99999	???	-9.99999	???
BPINAOOH	-9.99999	???	-9.99999	???
RO6R3OOH	-9.99999	???	-9.99999	???
PINALNO3	-9.99999	???	-9.99999	???
C10PAN2	-9.99999	???	-9.99999	???
C106NO3	-9.99999	???	-9.99999	???
BPINANO3	-9.99999	???	-9.99999	???
RO6R1NO3	-9.99999	???	-9.99999	???
RO6R3NO3	-9.99999	???	-9.99999	???
ROO6R1NO3	-9.99999	???	-9.99999	???
LAPINABOOH	-9.99999	???	-9.99999	???
LAPINABNO3	-9.99999	???	-9.99999	???
LNAPINABOOH	-9.99999	???	-9.99999	???
LNBPINABOOH	-9.99999	???	-9.99999	???
LHAROM	-9.99999	???	-9.99999	???
CHF3	-9.99999	???	-9.99999	???
CHF2CF3	-9.99999	???	-9.99999	???
CH3CF3	-9.99999	???	-9.99999	???
CH2F2	-9.99999	???	-9.99999	???
CH3CHF2	-9.99999	???	-9.99999	???
Cl2	9.2E-2	Bartlett and Margerum (1999)	2081.	???
HCl	2./1.7	Brimblecombe and Clegg (1989)	9001.	???
HOCl	6.6E2	Huthwelker et al. (1995)	5862.	???
ClNO3	BIG_DP	see notes	0.	???
CH3Cl	-9.99999	???	-9.99999	???
CHF2Cl	-9.99999	???	-9.99999	???
CH2FCF3	-9.99999	???	-9.99999	???
CF2ClCFCl2	-9.99999	???	-9.99999	???
CH2Cl2	-9.99999	???	-9.99999	???
CH3CFCl2	-9.99999	???	-9.99999	???
CF2ClCF2Cl	-9.99999	???	-9.99999	???
CHCl3	-9.99999	???	-9.99999	???
CF3CF2Cl	-9.99999	???	-9.99999	???
Br2	7.7E-1	Bartlett and Margerum (1999)	3837.	???
HBr	1.3	Brimblecombe and Clegg (1989)	10239.	???
HOBr	1.3E3	Blatchley et al. (1992)	5862.	???
BrNO3	BIG_DP	see notes	0.	???
BrCl	9.4E-1	Bartlett and Margerum (1999)	5600.	???
CH3Br	-9.99999	???	-9.99999	???
CHCl2Br	-9.99999	???	-9.99999	???
CHClBr2	-9.99999	???	-9.99999	???
CH2ClBr	-9.99999	???	-9.99999	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
CH2Br2	-9.99999	???	-9.99999	???
CHBr3	-9.99999	???	-9.99999	???
I2	3.	Palmer et al. (1985)	4431.	???
IO	4.5E2	see notes	5862.	???
OIO	BIG_DP	see notes	0.	???
I2O2	BIG_DP	see notes	0.	???
HI	BIG_DP	see notes	0.	???
HOI	4.5E2	Chatfield and Crutzen (1990)	5862.	???
HIO3	BIG_DP	see notes	0.	???
INO2	BIG_DP	see notes	0.	???
INO3	BIG_DP	see notes	0.	???
ICl	1.1E2	see notes	5600.	???
CH2ClI	-9.99999	???	-9.99999	???
IBr	2.4E1	see notes	5600.	???
SO2	1.3	Burkholder et al. (2015)	2900.	???
H2SO4	1.E11	see notes	0.	???
CH3SO3H	BIG_DP	see notes	0.	???
DMS	5.4E-1	Staudinger and Roberts (2001)	3500.	???
DMSO	5.E4	De Bruyn et al. (1994)	6425.	???
CH3SO2	-9.99999	???	-9.99999	???
CH3SO3	-9.99999	???	-9.99999	???
Hg	0.13	Schroeder and Munthe (1998)	0.	???
HgO	3.2E6	Shon et al. (2005)	0.	???
HgCl	2.4E7	Shon et al. (2005)	0.	???
HgCl2	2.4E7	Shon et al. (2005)	0.	???
HgBr	2.4E7	see notes	0.	???
HgBr2	2.4E7	see notes	0.	???
ClHgBr	2.4E7	see notes	0.	???
BrHgOBr	2.4E7	see notes	0.	???
ClHgOBr	2.4E7	see notes	0.	???
ClHgOBr	-9.99999	???	-9.99999	???
ISON	-9.99999	???	-9.99999	???
ISOOH	-9.99999	???	-9.99999	???
LTERP	-9.99999	???	-9.99999	???
LALK4	-9.99999	???	-9.99999	???
LALK5	-9.99999	???	-9.99999	???
LARO1	-9.99999	???	-9.99999	???
LARO2	-9.99999	???	-9.99999	???
LOLE1	-9.99999	???	-9.99999	???
LOLE2	-9.99999	???	-9.99999	???
LfPOG02	-9.99999	???	-9.99999	???
LfPOG03	-9.99999	???	-9.99999	???
LfPOG04	-9.99999	???	-9.99999	???
LfPOG05	-9.99999	???	-9.99999	???
LbbPOG02	-9.99999	???	-9.99999	???
LbbPOG03	-9.99999	???	-9.99999	???

KPP name	$H^{\ominus}$ [M/atm]	Reference	$\frac{\mathrm{d}\ln H^{\ominus}}{\mathrm{d}(1/T)}$ [K]	Reference
LbbPOG04	-9.99999	???	-9.99999	???
LfSOGsv01	-9.99999	???	-9.99999	???
LfSOGsv02	-9.99999	???	-9.99999	???
LbbSOGsv01	-9.99999	???	-9.99999	???
LbbSOGsv02	-9.99999	???	-9.99999	???
LfSOGiv01	-9.99999	???	-9.99999	???
LfSOGiv02	-9.99999	???	-9.99999	???
LfSOGiv03	-9.99999	???	-9.99999	???
LfSOGiv04	-9.99999	???	-9.99999	???
LbbSOGiv01	-9.99999	???	-9.99999	???
LbbSOGiv02	-9.99999	???	-9.99999	???
LbbSOGiv03	-9.99999	???	-9.99999	???
LbSOGv01	-9.99999	???	-9.99999	???
LbSOGv02	-9.99999	???	-9.99999	???
LbSOGv03	-9.99999	???	-9.99999	???
LbSOGv04	-9.99999	???	-9.99999	???
LbOSOGv01	-9.99999	???	-9.99999	???
LbOSOGv02	-9.99999	???	-9.99999	???
LbOSOGv03	-9.99999	???	-9.99999	???
LaSOGv01	-9.99999	???	-9.99999	???
LaSOGv02	-9.99999	???	-9.99999	???
LaSOGv03	-9.99999	???	-9.99999	???
LaSOGv04	-9.99999	???	-9.99999	???
LaOSOGv01	-9.99999	???	-9.99999	???
LaOSOGv02	-9.99999	???	-9.99999	???
LaOSOGv03	-9.99999	???	-9.99999	???

KPP name	k_s	Reference
O2	9.99999	???
O3	9.99999	???
H	9.99999	???
H2	9.99999	???
OH	9.99999	???
HO2	9.99999	???
H2O	9.99999	???
H2O2	9.99999	???
NH3	9.99999	???
NO	9.99999	???
NO2	9.99999	???
NO3	9.99999	???
N2O5	9.99999	???
HONO	9.99999	???
HNO3	9.99999	???
HNO4	9.99999	???
NH2	9.99999	???
HNO	9.99999	???
NHOH	9.99999	???
NH2O	9.99999	???
NH2OH	9.99999	???
CH4	9.99999	???
CH3	9.99999	???
CH3O	9.99999	???
CO	9.99999	???
CO2	9.99999	???
HCHO	9.99999	???
HCOOH	9.99999	???
CH3O2	9.99999	???
HOCH2O2	9.99999	???
CH3OH	9.99999	???
CH3OOH	9.99999	???
HOCH2OOH	9.99999	???
HOCH2OH	9.99999	???
CH3ONO	9.99999	???
CH3NO3	9.99999	???
CH3O2NO2	9.99999	???
HOCH2O2NO2	9.99999	???
HCN	9.99999	???
CH2CO	9.99999	???
GLYOX	9.99999	???
HCOCO2H	9.99999	???
HCOCO3H	9.99999	???
CH2CHOH	9.99999	???
CH3CHO	9.99999	???
CH3CO2H	9.99999	???
HOCH2CHO	9.99999	???
HOOCH2CHO	9.99999	???
CH3CO3H	9.99999	???

KPP name	k_s	Reference
HOCH2CO2H	9.99999	???
HOCH2CO3H	9.99999	???
HOOCH2CO2H	9.99999	???
HOOCH2CO3H	9.99999	???
C2H5O2	9.99999	???
C2H5OH	9.99999	???
C2H5OOH	9.99999	???
ETHGLY	9.99999	???
HYETHO2H	9.99999	???
CH3CHOHOOH	9.99999	???
NO3CH2PAN	9.99999	???
CH3CN	9.99999	???
NO3CH2CHO	9.99999	???
PAN	9.99999	???
PHAN	9.99999	???
ETHOHNO3	9.99999	???
C2H5NO3	9.99999	???
C2H5O2NO2	9.99999	???
OXL	9.99999	???
C33CO	9.99999	???
ALCOCH2OOH	9.99999	???
MGLYOX	9.99999	???
HOCH2COCHO	9.99999	???
HCOCH2CHO	9.99999	???
HCOCH2CO2H	9.99999	???
HCOCH2CO3H	9.99999	???
CH3COCH3	9.99999	???
ACETOL	9.99999	???
HYPERACET	9.99999	???
HOC2H4CO2H	9.99999	???
HOC2H4CO3H	9.99999	???
IC3H7OOH	9.99999	???
HYPROPO2H	9.99999	???
CH3CHCO	9.99999	???
CH3COCO2H	9.99999	???
CH3COCO3H	9.99999	???
HCOCOCH2OOH	9.99999	???
C2H5CHO	9.99999	???
PROPENOL	9.99999	???
C2H5CO2H	9.99999	???
C2H5CO3H	9.99999	???
HOCH2COCH2OOH	9.99999	???
IPROPOL	9.99999	???
NPROPOL	9.99999	???
NC3H7OOH	9.99999	???
C3DIALOOH	9.99999	???
METACETHO	9.99999	???
C32OH13CO	9.99999	???
HCOCOHCO3H	9.99999	???

KPP name	k_s	Reference
C3PAN2	9.99999	???
NOA	9.99999	???
CH3COCH2O2NO2	9.99999	???
PPN	9.99999	???
C3PAN1	9.99999	???
NC3H7NO3	9.99999	???
IC3H7NO3	9.99999	???
PROPOLNO3	9.99999	???
PR2O2HNO3	9.99999	???
HCOCOHPAN	9.99999	???
HCOCCH3CO	9.99999	???
CH3COCHCO	9.99999	???
C4CODIAL	9.99999	???
CO23C3CHO	9.99999	???
C312COCO3H	9.99999	???
CO2H3CHO	9.99999	???
BIACETO2	9.99999	???
CHOC3COO2	9.99999	???
MACR	9.99999	???
MVK	9.99999	???
BIACET	9.99999	???
MACO2H	9.99999	???
HVMK	9.99999	???
HMAC	9.99999	???
CO2C3CHO	9.99999	???
IBUTDIAL	9.99999	???
MACO3H	9.99999	???
BIACETOH	9.99999	???
CH3COOHCHCHO	9.99999	???
HCOCCH3CHOOH	9.99999	???
C413COOOH	9.99999	???
BIACETOOH	9.99999	???
CH3COCOCO2H	9.99999	???
CO2H3CO2H	9.99999	???
C44OOH	9.99999	???
CO2H3CO3H	9.99999	???
MACRN	9.99999	???
MVKNO3	9.99999	???
PIPN	9.99999	???
MEK	9.99999	???
HO12CO3C4	9.99999	???
MACROH	9.99999	???
MACROOH	9.99999	???
BUTENOL	9.99999	???
C3H7CHO	9.99999	???
IPRCHO	9.99999	???
MPROPENOL	9.99999	???
IBUTALOH	9.99999	???
BUT2OLO	9.99999	???

KPP name	k_s	Reference
PERIBUACID	9.99999	???
IPRHOCO2H	9.99999	???
IPRHOCO3H	9.99999	???
IC4H9NO3	9.99999	???
TC4H9NO3	9.99999	???
BUT2OLNO3	9.99999	???
TC4H9OOH	9.99999	???
IC4H9OOH	9.99999	???
IBUTOLBOOH	9.99999	???
BUT2OLOOH	9.99999	???
MALANHY	9.99999	???
CO2C4DIAL	9.99999	???
MALNHYOHCO	9.99999	???
BZFUONE	9.99999	???
MALDIAL	9.99999	???
MALDALCO2H	9.99999	???
EPXC4DIAL	9.99999	???
HOCOC4DIAL	9.99999	???
MALDALCO3H	9.99999	???
BZFUCO	9.99999	???
EPXDLCO2H	9.99999	???
CO14O3CHO	9.99999	???
CO14O3CO2H	9.99999	???
EPXDLCO3H	9.99999	???
MALANHYOOH	9.99999	???
MALDIALOOH	9.99999	???
BZFUOOH	9.99999	???
MECOACEOOH	9.99999	???
C312COPAN	9.99999	???
MPAN	9.99999	???
IBUTOLBNO3	9.99999	???
C4PAN5	9.99999	???
NC4DCO2H	9.99999	???
MALDIALPAN	9.99999	???
NBZFUONE	9.99999	???
EPXDLPAN	9.99999	???
NBZFUOOH	9.99999	???
LMEKOOH	9.99999	???
LHMVKABOOH	9.99999	???
LC4H9OOH	9.99999	???
LBUT1ENOOH	9.99999	???
LMEKNO3	9.99999	???
LC4H9NO3	9.99999	???
LBUT1ENNO3	9.99999	???
ME3FURAN	9.99999	???
ZCODC23DBCOD	9.99999	???
CO13C4CHO	9.99999	???
CO23C4CHO	9.99999	???
ZCO3HC23DBCOD	9.99999	???

KPP name	k_s	Reference
C513CO	9.99999	???
CHOC3COOOH	9.99999	???
CO23C4CO3H	9.99999	???
C5H8	9.99999	???
HCOC5	9.99999	???
ZCODC23DBCOOH	9.99999	???
MBOCOCO	9.99999	???
C511OOH	9.99999	???
C514OOH	9.99999	???
C512OOH	9.99999	???
C1ODC2OOHC4OD	9.99999	???
C513OOH	9.99999	???
C1ODC2O2C4OOH	9.99999	???
C1ODC3O2C4OOH	9.99999	???
MBO	9.99999	???
ISOPAOH	9.99999	???
ISOPBOH	9.99999	???
ISOPDOH	9.99999	???
ISOPBOOH	9.99999	???
ISOPDOOH	9.99999	???
MBOACO	9.99999	???
DB1OOH	9.99999	???
C59OOH	9.99999	???
C1OOHC2OOHC4OD	9.99999	???
DB2OOH	9.99999	???
C4CO2DBCO3	9.99999	???
MMALANHY	9.99999	???
C54CO	9.99999	???
C4CO2DCO3H	9.99999	???
C5DIALCO	9.99999	???
ACCOMECO3	9.99999	???
MMALANHYO2	9.99999	???
TLFUONE	9.99999	???
C5DICARB	9.99999	???
MC3ODBCO2H	9.99999	???
C5CO14OH	9.99999	???
C5134CO2OH	9.99999	???
C5DIALOOH	9.99999	???
ACCOMECHO	9.99999	???
C5CO14OOH	9.99999	???
C24O3CCO2H	9.99999	???
MMALNHYOOH	9.99999	???
ACCOMECO3H	9.99999	???
TLFUOOH	9.99999	???
C5DICAROOH	9.99999	???
CHOC3COPAN	9.99999	???
ZCPANC23DBCOD	9.99999	???
C5PAN9	9.99999	???
NC4CHO	9.99999	???

KPP name	k_s	Reference
C514NO3	9.99999	???
NC4OHCPAN	9.99999	???
ISOPBNO3	9.99999	???
ISOPDNO3	9.99999	???
NISOPOOH	9.99999	???
NMBOBCO	9.99999	???
C4MCONO3OH	9.99999	???
DB1NO3	9.99999	???
NC4OHCO3H	9.99999	???
C4CO2DBPAN	9.99999	???
NC4MDCO2H	9.99999	???
C5COO2NO2	9.99999	???
ACCOMEPAN	9.99999	???
NTLFUOOH	9.99999	???
LHC4ACCHO	9.99999	???
LHC4ACCO2H	9.99999	???
LHC4ACCO3H	9.99999	???
LIEPOX	9.99999	???
LISOPACOOH	9.99999	???
LC578OOH	9.99999	???
LMBOABOOH	9.99999	???
LC5PAN1719	9.99999	???
LISOPACNO3	9.99999	???
LNMBOABOOH	9.99999	???
LMBOABNO3	9.99999	???
LNISOOH	9.99999	???
C614CO	9.99999	???
CO235C6OOH	9.99999	???
C614OOH	9.99999	???
PBZQONE	9.99999	???
CATECHOL	9.99999	???
C6CO4DB	9.99999	???
PBZQCO	9.99999	???
C6H5O	9.99999	???
CATEC1O	9.99999	???
C5CO2DBCO3	9.99999	???
C5CO2DCO3H	9.99999	???
C5CO2OHCO3	9.99999	???
BENZENE	9.99999	???
PHENOL	9.99999	???
C6H5OOH	9.99999	???
BZEPOXMUC	9.99999	???
C6125CO	9.99999	???
CATEC1OOH	9.99999	???
BZEMUCCO2H	9.99999	???
BZOBIPEROH	9.99999	???
BZEMUCCO	9.99999	???
PBZQOOH	9.99999	???
BZEMUCCO3H	9.99999	???

KPP name	k_s	Reference
C5COOHCO3H	9.99999	???
C615CO2OOH	9.99999	???
BZBIPEROOH	9.99999	???
PHENOOH	9.99999	???
BZEMUCOOH	9.99999	???
C614NO3	9.99999	???
NPHEN1O	9.99999	???
DNPHEN	9.99999	???
HOC6H4NO2	9.99999	???
NCATECHOL	9.99999	???
NPHEN1OOH	9.99999	???
BZEMUCPAN	9.99999	???
C5CO2DBPAN	9.99999	???
NBZQOOH	9.99999	???
C5CO2OHPAN	9.99999	???
NDNPHENOOH	9.99999	???
DNPHENOOH	9.99999	???
NNCATECOOH	9.99999	???
BZBIPERNO3	9.99999	???
BZEMUCNO3	9.99999	???
NPHENOOH	9.99999	???
NCATECOOH	9.99999	???
CO235C6CHO	9.99999	???
C235C6CO3H	9.99999	???
C716OOH	9.99999	???
C721OOH	9.99999	???
C722OOH	9.99999	???
BENZAL	9.99999	???
PHCOOH	9.99999	???
PTLQONE	9.99999	???
C6H5CO3H	9.99999	???
C7CO4DB	9.99999	???
PTLQCO	9.99999	???
TOL1O	9.99999	???
MCATEC1O	9.99999	???
TOLUENE	9.99999	???
CRESOL	9.99999	???
OXYL1OOH	9.99999	???
C6H5CH2OOH	9.99999	???
MCATECHOL	9.99999	???
TLEPOXMUC	9.99999	???
MCATEC1OOH	9.99999	???
TLEMUCCO2H	9.99999	???
TLOBIPEROH	9.99999	???
PTLQOOH	9.99999	???
TLEMUCCO	9.99999	???
TLEMUCCO3H	9.99999	???
C6COOHCO3H	9.99999	???
TLBIPEROOH	9.99999	???

KPP name	k_s	Reference
CRESOOH	9.99999	???
TLEMUCOOH	9.99999	???
C7PAN3	9.99999	???
PBZN	9.99999	???
NCRES1O	9.99999	???
DNCRES	9.99999	???
TOL1OHNO2	9.99999	???
C6H5CH2NO3	9.99999	???
MNCATECH	9.99999	???
NCRES1OOH	9.99999	???
NPTLQOOH	9.99999	???
TLEMUCPAN	9.99999	???
C6CO2OHPAN	9.99999	???
NDNCRESOOH	9.99999	???
DNCRESOOH	9.99999	???
MNNCATCOOH	9.99999	???
TLBIPERNO3	9.99999	???
TLEMUCNO3	9.99999	???
NCRESOOH	9.99999	???
MNCATECOOH	9.99999	???
C8BCCO	9.99999	???
C8BCOOH	9.99999	???
C721CHO	9.99999	???
NORPINIC	9.99999	???
C721CO3H	9.99999	???
C8BC	9.99999	???
C85OOH	9.99999	???
C86OOH	9.99999	???
C812OOH	9.99999	???
C813OOH	9.99999	???
C89OOH	9.99999	???
C810OOH	9.99999	???
STYRENE	9.99999	???
LXYL	9.99999	???
EBENZ	9.99999	???
STYRENOOH	9.99999	???
C8BCNO3	9.99999	???
C721PAN	9.99999	???
C89NO3	9.99999	???
C810NO3	9.99999	???
NSTYRENOOH	9.99999	???
NOPINDCO	9.99999	???
C85CO3H	9.99999	???
NOPINONE	9.99999	???
NOPINOO	9.99999	???
NORPINAL	9.99999	???
NORPINENOL	9.99999	???
C89CO2H	9.99999	???
NOPINDOOH	9.99999	???

KPP name	k_s	Reference
RO6R3P	9.99999	???
C89CO3H	9.99999	???
PINIC	9.99999	???
C811CO3H	9.99999	???
C96OOH	9.99999	???
C97OOH	9.99999	???
C98OOH	9.99999	???
C89PAN	9.99999	???
C9PAN2	9.99999	???
C811PAN	9.99999	???
C96NO3	9.99999	???
LTMB	9.99999	???
C109CO	9.99999	???
PINALOOH	9.99999	???
APINENE	9.99999	???
BPINENE	9.99999	???
CARENE	9.99999	???
SABINENE	9.99999	???
CAMPHENE	9.99999	???
PINAL	9.99999	???
PINENOL	9.99999	???
MENTHEN6ONE	9.99999	???
PINONIC	9.99999	???
C109OOH	9.99999	???
PERPINONIC	9.99999	???
C106OOH	9.99999	???
OH2MENTHEN6ONE	9.99999	???
BPINAOOH	9.99999	???
RO6R3OOH	9.99999	???
PINALNO3	9.99999	???
C10PAN2	9.99999	???
C106NO3	9.99999	???
BPINANO3	9.99999	???
RO6R1NO3	9.99999	???
RO6R3NO3	9.99999	???
ROO6R1NO3	9.99999	???
LAPINABOOH	9.99999	???
LAPINABNO3	9.99999	???
LNAPINABOOH	9.99999	???
LNBPINABOOH	9.99999	???
LHAROM	9.99999	???
CHF3	9.99999	???
CHF2CF3	9.99999	???
CH3CF3	9.99999	???
CH2F2	9.99999	???
CH3CHF2	9.99999	???
Cl2	9.99999	???
HCl	9.99999	???
HOCl	9.99999	???

KPP name	k_s	Reference
ClNO3	9.99999	???
CH3Cl	9.99999	???
CHF2Cl	9.99999	???
CH2FCF3	9.99999	???
CF2ClCFCl2	9.99999	???
CH2Cl2	9.99999	???
CH3CFCl2	9.99999	???
CF2ClCF2Cl	9.99999	???
CHCl3	9.99999	???
CF3CF2Cl	9.99999	???
Br2	9.99999	???
HBr	9.99999	???
HOBr	9.99999	???
BrNO3	9.99999	???
BrCl	9.99999	???
CH3Br	9.99999	???
CHCl2Br	9.99999	???
CHClBr2	9.99999	???
CH2ClBr	9.99999	???
CH2Br2	9.99999	???
CHBr3	9.99999	???
I2	9.99999	???
IO	9.99999	???
OIO	9.99999	???
I2O2	9.99999	???
HI	9.99999	???
HOI	9.99999	???
HIO3	9.99999	???
INO2	9.99999	???
INO3	9.99999	???
ICl	9.99999	???
CH2ClI	9.99999	???
IBr	9.99999	???
SO2	9.99999	???
H2SO4	9.99999	???
CH3SO3H	9.99999	???
DMS	9.99999	???
DMSO	9.99999	???
CH3SO2	9.99999	???
CH3SO3	9.99999	???
Hg	9.99999	???
HgO	9.99999	???
HgCl	9.99999	???
HgCl2	9.99999	???
HgBr	9.99999	???
HgBr2	9.99999	???
ClHgBr	9.99999	???
BrHgOBr	9.99999	???
ClHgOBr	9.99999	???

KPP name	k_s	Reference
ClHgOBr	9.99999	???
ISON	9.99999	???
ISOOH	9.99999	???
LTERP	9.99999	???
LALK4	9.99999	???
LALK5	9.99999	???
LARO1	9.99999	???
LARO2	9.99999	???
LOLE1	9.99999	???
LOLE2	9.99999	???
LfPOG02	9.99999	???
LfPOG03	9.99999	???
LfPOG04	9.99999	???
LfPOG05	9.99999	???
LbbPOG02	9.99999	???
LbbPOG03	9.99999	???
LbbPOG04	9.99999	???
LfSOGsv01	9.99999	???
LfSOGsv02	9.99999	???
LbbSOGsv01	9.99999	???
LbbSOGsv02	9.99999	???
LfSOGiv01	9.99999	???
LfSOGiv02	9.99999	???
LfSOGiv03	9.99999	???
LfSOGiv04	9.99999	???
LbbSOGiv01	9.99999	???
LbbSOGiv02	9.99999	???
LbbSOGiv03	9.99999	???
LbSOGv01	9.99999	???
LbSOGv02	9.99999	???
LbSOGv03	9.99999	???
LbSOGv04	9.99999	???
LbOSOGv01	9.99999	???
LbOSOGv02	9.99999	???
LbOSOGv03	9.99999	???
LaSOGv01	9.99999	???
LaSOGv02	9.99999	???
LaSOGv03	9.99999	???
LaSOGv04	9.99999	???
LaOSOGv01	9.99999	???
LaOSOGv02	9.99999	???
LaOSOGv03	9.99999	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
O2	0.01	see notes	2000.	???
O3	0.002	DeMore et al. (1997)	0.	???
H	0.1	see notes	0.	???
H2	0.1	see notes	0.	???
OH	0.01	Takami et al. (1998)	0.	???
HO2	0.5	Thornton and Abbatt (2005)	0.	???
H2O	0.0	see notes	0.	???
H2O2	0.077	Worsnop et al. (1989)	3127.	???
NH3	0.06	DeMore et al. (1997)	0.	???
NO	5.0E-5	Saastad et al. (1993)	0.	???
NO2	0.0015	Ponche et al. (1993)	0.	???
NO3	0.04	Rudich et al. (1996)	0.	???
N2O5	0.1	see notes	0.	???
HONO	0.04	DeMore et al. (1997)	0.	???
HNO3	0.5	Abbatt and Waschewsky (1998)	0.	???
HNO4	0.1	see notes	0.	???
NH2	0.1	see notes	0.	???
HNO	0.1	see notes	0.	???
NHOH	0.1	see notes	0.	???
NH2O	0.1	see notes	0.	???
NH2OH	0.1	see notes	0.	???
CH4	0.1	see notes	0.	???
CH3	0.1	see notes	0.	???
CH3O	0.1	see notes	0.	???
CO	0.1	see notes	0.	???
CO2	0.01	see notes	2000.	???
HCHO	0.04	DeMore et al. (1997)	0.	???
HCOOH	0.014	DeMore et al. (1997)	3978.	???
CH3O2	0.01	see notes	2000.	???
HOCH2O2	0.1	see notes	0.	???
CH3OH	0.1	see notes	0.	???
CH3OOH	0.0046	Magi et al. (1997)	3273.	???
HOCH2OOH	0.1	see notes	0.	???
HOCH2OH	0.1	see notes	0.	???
CH3ONO	0.1	see notes	0.	???
CH3NO3	0.1	see notes	0.	???
CH3O2NO2	0.1	see notes	0.	???
HOCH2O2NO2	0.1	see notes	0.	???
HCN	0.1	see notes	0.	???
CH2CO	0.1	see notes	0.	???
GLYOX	0.1	see notes	0.	???
HCOCO2H	0.1	see notes	0.	???
HCOCO3H	0.1	see notes	0.	???
CH2CHOH	0.1	see notes	0.	???
CH3CHO	3.0E-2	see notes	0.	???
CH3CO2H	2.0E-2	Davidovits et al. (1995)	4079.	???
HOCH2CHO	0.1	see notes	0.	???
HOOCH2CHO	0.1	see notes	0.	???
CH3CO3H	0.1	see notes	0.	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
HOCH2CO2H	0.1	see notes	0.	???
HOCH2CO3H	0.1	see notes	0.	???
HOOCH2CO2H	0.1	see notes	0.	???
HOOCH2CO3H	0.1	see notes	0.	???
C2H5O2	0.1	see notes	0.	???
C2H5OH	0.1	see notes	0.	???
C2H5OOH	0.1	see notes	0.	???
ETHGLY	0.1	see notes	0.	???
HYETHO2H	0.1	see notes	0.	???
CH3CHOHOOH	0.1	see notes	0.	???
NO3CH2PAN	0.1	see notes	0.	???
CH3CN	0.1	see notes	0.	???
NO3CH2CHO	0.1	see notes	0.	???
PAN	0.1	see notes	0.	???
PHAN	0.1	see notes	0.	???
ETHOHNO3	0.1	see notes	0.	???
C2H5NO3	0.1	see notes	0.	???
C2H5O2NO2	0.1	see notes	0.	???
OXL	0.1	see notes	0.	???
C33CO	0.1	see notes	0.	???
ALCOCH2OOH	0.1	see notes	0.	???
MGLYOX	0.1	see notes	0.	???
HOCH2COCHO	0.1	see notes	0.	???
HCOCH2CHO	0.1	see notes	0.	???
HCOCH2CO2H	0.1	see notes	0.	???
HCOCH2CO3H	0.1	see notes	0.	???
CH3COCH3	3.72E-3	Davidovits et al. (1995)	6395.	???
ACETOL	0.1	see notes	0.	???
HYPERACET	0.1	see notes	0.	???
HOC2H4CO2H	0.1	see notes	0.	???
HOC2H4CO3H	0.1	see notes	0.	???
IC3H7OOH	0.1	see notes	0.	???
HYPROPO2H	0.1	see notes	0.	???
CH3CHCO	0.1	see notes	0.	???
CH3COCO2H	0.1	see notes	0.	???
CH3COCO3H	0.1	see notes	0.	???
HCOCOCH2OOH	0.1	see notes	0.	???
C2H5CHO	0.1	see notes	0.	???
PROPENOL	0.1	see notes	0.	???
C2H5CO2H	0.1	see notes	0.	???
C2H5CO3H	0.1	see notes	0.	???
HOCH2COCH2OOH	0.1	see notes	0.	???
IPROPOL	0.1	see notes	0.	???
NPROPOL	0.1	see notes	0.	???
NC3H7OOH	0.1	see notes	0.	???
C3DIALOOH	0.1	see notes	0.	???
METACETHO	0.1	see notes	0.	???
C32OH13CO	0.1	see notes	0.	???
HCOCOHCO3H	0.1	see notes	0.	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
C3PAN2	0.1	see notes	0.	???
NOA	0.1	see notes	0.	???
CH3COCH2O2NO2	0.1	see notes	0.	???
PPN	0.1	see notes	0.	???
C3PAN1	0.1	see notes	0.	???
NC3H7NO3	0.1	see notes	0.	???
IC3H7NO3	0.1	see notes	0.	???
PROPOLNO3	0.1	see notes	0.	???
PR2O2HNO3	0.1	see notes	0.	???
HCOCOHPAN	0.1	see notes	0.	???
HCOCCH3CO	0.1	see notes	0.	???
CH3COCHCO	0.1	see notes	0.	???
C4CODIAL	0.1	see notes	0.	???
CO23C3CHO	0.1	see notes	0.	???
C312COCO3H	0.1	see notes	0.	???
CO2H3CHO	0.1	see notes	0.	???
BIACETO2	0.1	see notes	0.	???
CHOC3COO2	0.1	see notes	0.	???
MACR	0.1	see notes	0.	???
MVK	0.1	see notes	0.	???
BIACET	0.1	see notes	0.	???
MACO2H	0.1	see notes	0.	???
HVMK	0.1	see notes	0.	???
HMAC	0.1	see notes	0.	???
CO2C3CHO	0.1	see notes	0.	???
IBUTDIAL	0.1	see notes	0.	???
MACO3H	0.1	see notes	0.	???
BIACETOH	0.1	see notes	0.	???
CH3COOHCHCHO	0.1	see notes	0.	???
HCOCCH3CHOOH	0.1	see notes	0.	???
C413COOOH	0.1	see notes	0.	???
BIACETOOH	0.1	see notes	0.	???
CH3COCOCO2H	0.1	see notes	0.	???
CO2H3CO2H	0.1	see notes	0.	???
C44OOH	0.1	see notes	0.	???
CO2H3CO3H	0.1	see notes	0.	???
MACRN	0.1	see notes	0.	???
MVKNO3	0.1	see notes	0.	???
PIPN	0.1	see notes	0.	???
MEK	0.1	see notes	0.	???
HO12CO3C4	0.1	see notes	0.	???
MACROH	0.1	see notes	0.	???
MACROOH	0.1	see notes	0.	???
BUTENOL	0.1	see notes	0.	???
C3H7CHO	0.1	see notes	0.	???
IPRCHO	0.1	see notes	0.	???
MPROPENOL	0.1	see notes	0.	???
IBUTALOH	0.1	see notes	0.	???
BUT2OLO	0.1	see notes	0.	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
PERIBUACID	0.1	see notes	0.	???
IPRHOCO2H	0.1	see notes	0.	???
IPRHOCO3H	0.1	see notes	0.	???
IC4H9NO3	0.1	see notes	0.	???
TC4H9NO3	0.1	see notes	0.	???
BUT2OLNO3	0.1	see notes	0.	???
TC4H9OOH	0.1	see notes	0.	???
IC4H9OOH	0.1	see notes	0.	???
IBUTOLBOOH	0.1	see notes	0.	???
BUT2OLOOH	0.1	see notes	0.	???
MALANHY	0.1	see notes	0.	???
CO2C4DIAL	0.1	see notes	0.	???
MALNHYOHCO	0.1	see notes	0.	???
BZFUONE	0.1	see notes	0.	???
MALDIAL	0.1	see notes	0.	???
MALDALCO2H	0.1	see notes	0.	???
EPXC4DIAL	0.1	see notes	0.	???
HOCOC4DIAL	0.1	see notes	0.	???
MALDALCO3H	0.1	see notes	0.	???
BZFUCO	0.1	see notes	0.	???
EPXDLCO2H	0.1	see notes	0.	???
CO14O3CHO	0.1	see notes	0.	???
CO14O3CO2H	0.1	see notes	0.	???
EPXDLCO3H	0.1	see notes	0.	???
MALANHYOOH	0.1	see notes	0.	???
MALDIALOOH	0.1	see notes	0.	???
BZFUOOH	0.1	see notes	0.	???
MECOACEOOH	0.1	see notes	0.	???
C312COPAN	0.1	see notes	0.	???
MPAN	0.1	see notes	0.	???
IBUTOLBNO3	0.1	see notes	0.	???
C4PAN5	0.1	see notes	0.	???
NC4DCO2H	0.1	see notes	0.	???
MALDIALPAN	0.1	see notes	0.	???
NBZFUONE	0.1	see notes	0.	???
EPXDLPAN	0.1	see notes	0.	???
NBZFUOOH	0.1	see notes	0.	???
LMEKOOH	0.1	see notes	0.	???
LHMVKABOOH	0.1	see notes	0.	???
LC4H9OOH	0.1	see notes	0.	???
LBUT1ENOOH	0.1	see notes	0.	???
LMEKNO3	0.1	see notes	0.	???
LC4H9NO3	0.1	see notes	0.	???
LBUT1ENNO3	0.1	see notes	0.	???
ME3FURAN	0.1	see notes	0.	???
ZCODC23DBCOD	0.1	see notes	0.	???
CO13C4CHO	0.1	see notes	0.	???
CO23C4CHO	0.1	see notes	0.	???
ZCO3HC23DBCOD	0.1	see notes	0.	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
C513CO	0.1	see notes	0.	???
CHOC3COOOH	0.1	see notes	0.	???
CO23C4CO3H	0.1	see notes	0.	???
C5H8	0.1	see notes	0.	???
HCOC5	0.1	see notes	0.	???
ZCODC23DBCOOH	0.1	see notes	0.	???
MBOCOCO	0.1	see notes	0.	???
C511OOH	0.1	see notes	0.	???
C514OOH	0.1	see notes	0.	???
C512OOH	0.1	see notes	0.	???
C1ODC2OOHC4OD	0.1	see notes	0.	???
C513OOH	0.1	see notes	0.	???
C1ODC2O2C4OOH	0.1	see notes	0.	???
C1ODC3O2C4OOH	0.1	see notes	0.	???
MBO	0.1	see notes	0.	???
ISOPAOH	0.1	see notes	0.	???
ISOPBOH	0.1	see notes	0.	???
ISOPDOH	0.1	see notes	0.	???
ISOPBOOH	0.1	see notes	0.	???
ISOPDOOH	0.1	see notes	0.	???
MBOACO	0.1	see notes	0.	???
DB1OOH	0.1	see notes	0.	???
C59OOH	0.1	see notes	0.	???
C1OOHC2OOHC4OD	0.1	see notes	0.	???
DB2OOH	0.1	see notes	0.	???
C4CO2DBCO3	0.1	see notes	0.	???
MMALANHY	0.1	see notes	0.	???
C54CO	0.1	see notes	0.	???
C4CO2DCO3H	0.1	see notes	0.	???
C5DIALCO	0.1	see notes	0.	???
ACCOMECO3	0.1	see notes	0.	???
MMALANHYO2	0.1	see notes	0.	???
TLFUONE	0.1	see notes	0.	???
C5DICARB	0.1	see notes	0.	???
MC3ODBCO2H	0.1	see notes	0.	???
C5CO14OH	0.1	see notes	0.	???
C5134CO2OH	0.1	see notes	0.	???
C5DIALOOH	0.1	see notes	0.	???
ACCOMECHO	0.1	see notes	0.	???
C5CO14OOH	0.1	see notes	0.	???
C24O3CCO2H	0.1	see notes	0.	???
MMALNHYOOH	0.1	see notes	0.	???
ACCOMECO3H	0.1	see notes	0.	???
TLFUOOH	0.1	see notes	0.	???
C5DICAROOH	0.1	see notes	0.	???
CHOC3COPAN	0.1	see notes	0.	???
ZCPANC23DBCOD	0.1	see notes	0.	???
C5PAN9	0.1	see notes	0.	???
NC4CHO	0.1	see notes	0.	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
C514NO3	0.1	see notes	0.	???
NC4OHCPAN	0.1	see notes	0.	???
ISOPBNO3	0.1	see notes	0.	???
ISOPDNO3	0.1	see notes	0.	???
NISOPOOH	0.1	see notes	0.	???
NMBOBCO	0.1	see notes	0.	???
C4MCONO3OH	0.1	see notes	0.	???
DB1NO3	0.1	see notes	0.	???
NC4OHCO3H	0.1	see notes	0.	???
C4CO2DBPAN	0.1	see notes	0.	???
NC4MDCO2H	0.1	see notes	0.	???
C5COO2NO2	0.1	see notes	0.	???
ACCOMEPAN	0.1	see notes	0.	???
NTLFUOOH	0.1	see notes	0.	???
LHC4ACCHO	0.1	see notes	0.	???
LHC4ACCO2H	0.1	see notes	0.	???
LHC4ACCO3H	0.1	see notes	0.	???
LIEPOX	0.1	see notes	0.	???
LISOPACOOH	0.1	see notes	0.	???
LC578OOH	0.1	see notes	0.	???
LMBOABOOH	0.1	see notes	0.	???
LC5PAN1719	0.1	see notes	0.	???
LISOPACNO3	0.1	see notes	0.	???
LNMBOABOOH	0.1	see notes	0.	???
LMBOABNO3	0.1	see notes	0.	???
LNISOOH	0.1	see notes	0.	???
C614CO	0.1	see notes	0.	???
CO235C6OOH	0.1	see notes	0.	???
C614OOH	0.1	see notes	0.	???
PBZQONE	0.1	see notes	0.	???
CATECHOL	0.1	see notes	0.	???
C6CO4DB	0.1	see notes	0.	???
PBZQCO	0.1	see notes	0.	???
C6H5O	0.1	see notes	0.	???
CATEC1O	0.1	see notes	0.	???
C5CO2DBCO3	0.1	see notes	0.	???
C5CO2DCO3H	0.1	see notes	0.	???
C5CO2OHCO3	0.1	see notes	0.	???
BENZENE	0.1	see notes	0.	???
PHENOL	0.1	see notes	0.	???
C6H5OOH	0.1	see notes	0.	???
BZEPOXMUC	0.1	see notes	0.	???
C6125CO	0.1	see notes	0.	???
CATEC1OOH	0.1	see notes	0.	???
BZEMUCCO2H	0.1	see notes	0.	???
BZOBIPEROH	0.1	see notes	0.	???
BZEMUCCO	0.1	see notes	0.	???
PBZQOOH	0.1	see notes	0.	???
BZEMUCCO3H	0.1	see notes	0.	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
C5COOHCO3H	0.1	see notes	0.	???
C615CO2OOH	0.1	see notes	0.	???
BZBIPEROOH	0.1	see notes	0.	???
PHENOOH	0.1	see notes	0.	???
BZEMUCOOH	0.1	see notes	0.	???
C614NO3	0.1	see notes	0.	???
NPHEN1O	0.1	see notes	0.	???
DNPHEN	0.1	see notes	0.	???
HOC6H4NO2	0.1	see notes	0.	???
NCATECHOL	0.1	see notes	0.	???
NPHEN1OOH	0.1	see notes	0.	???
BZEMUCPAN	0.1	see notes	0.	???
C5CO2DBPAN	0.1	see notes	0.	???
NBZQOOH	0.1	see notes	0.	???
C5CO2OHPAN	0.1	see notes	0.	???
NDNPHENOOH	0.1	see notes	0.	???
DNPHENOOH	0.1	see notes	0.	???
NNCATECOOH	0.1	see notes	0.	???
BZBIPERNO3	0.1	see notes	0.	???
BZEMUCNO3	0.1	see notes	0.	???
NPHENOOH	0.1	see notes	0.	???
NCATECOOH	0.1	see notes	0.	???
CO235C6CHO	0.1	see notes	0.	???
C235C6CO3H	0.1	see notes	0.	???
C716OOH	0.1	see notes	0.	???
C721OOH	0.1	see notes	0.	???
C722OOH	0.1	see notes	0.	???
BENZAL	0.1	see notes	0.	???
PHCOOH	0.1	see notes	0.	???
PTLQONE	0.1	see notes	0.	???
C6H5CO3H	0.1	see notes	0.	???
C7CO4DB	0.1	see notes	0.	???
PTLQCO	0.1	see notes	0.	???
TOL1O	0.1	see notes	0.	???
MCATEC1O	0.1	see notes	0.	???
TOLUENE	0.1	see notes	0.	???
CRESOL	0.1	see notes	0.	???
OXYL1OOH	0.1	see notes	0.	???
C6H5CH2OOH	0.1	see notes	0.	???
MCATECHOL	0.1	see notes	0.	???
TLEPOXMUC	0.1	see notes	0.	???
MCATEC1OOH	0.1	see notes	0.	???
TLEMUCCO2H	0.1	see notes	0.	???
TLOBIPEROH	0.1	see notes	0.	???
PTLQOOH	0.1	see notes	0.	???
TLEMUCCO	0.1	see notes	0.	???
TLEMUCCO3H	0.1	see notes	0.	???
C6COOHCO3H	0.1	see notes	0.	???
TLBIPEROOH	0.1	see notes	0.	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
CRESOOH	0.1	see notes	0.	???
TLEMUCOOH	0.1	see notes	0.	???
C7PAN3	0.1	see notes	0.	???
PBZN	0.1	see notes	0.	???
NCRES1O	0.1	see notes	0.	???
DNCRES	0.1	see notes	0.	???
TOL1OHNO2	0.1	see notes	0.	???
C6H5CH2NO3	0.1	see notes	0.	???
MNCATECH	0.1	see notes	0.	???
NCRES1OOH	0.1	see notes	0.	???
NPTLQOOH	0.1	see notes	0.	???
TLEMUCPAN	0.1	see notes	0.	???
C6CO2OHPAN	0.1	see notes	0.	???
NDNCRESOOH	0.1	see notes	0.	???
DNCRESOOH	0.1	see notes	0.	???
MNNCATCOOH	0.1	see notes	0.	???
TLBIPERNO3	0.1	see notes	0.	???
TLEMUCNO3	0.1	see notes	0.	???
NCRESOOH	0.1	see notes	0.	???
MNCATECOOH	0.1	see notes	0.	???
C8BCCO	0.1	see notes	0.	???
C8BCOOH	0.1	see notes	0.	???
C721CHO	0.1	see notes	0.	???
NORPINIC	0.1	see notes	0.	???
C721CO3H	0.1	see notes	0.	???
C8BC	0.1	see notes	0.	???
C85OOH	0.1	see notes	0.	???
C86OOH	0.1	see notes	0.	???
C812OOH	0.1	see notes	0.	???
C813OOH	0.1	see notes	0.	???
C89OOH	0.1	see notes	0.	???
C810OOH	0.1	see notes	0.	???
STYRENE	0.1	see notes	0.	???
LXYL	0.1	see notes	0.	???
EBENZ	0.1	see notes	0.	???
STYRENOOH	0.1	see notes	0.	???
C8BCNO3	0.1	see notes	0.	???
C721PAN	0.1	see notes	0.	???
C89NO3	0.1	see notes	0.	???
C810NO3	0.1	see notes	0.	???
NSTYRENOOH	0.1	see notes	0.	???
NOPINDCO	0.1	see notes	0.	???
C85CO3H	0.1	see notes	0.	???
NOPINONE	0.1	see notes	0.	???
NOPINOO	0.1	see notes	0.	???
NORPINAL	0.1	see notes	0.	???
NORPINENOL	0.1	see notes	0.	???
C89CO2H	0.1	see notes	0.	???
NOPINDOOH	0.1	see notes	0.	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
RO6R3P	0.1	see notes	0.	???
C89CO3H	0.1	see notes	0.	???
PINIC	0.1	see notes	0.	???
C811CO3H	0.1	see notes	0.	???
C96OOH	0.1	see notes	0.	???
C97OOH	0.1	see notes	0.	???
C98OOH	0.1	see notes	0.	???
C89PAN	0.1	see notes	0.	???
C9PAN2	0.1	see notes	0.	???
C811PAN	0.1	see notes	0.	???
C96NO3	0.1	see notes	0.	???
LTMB	0.1	see notes	0.	???
C109CO	0.1	see notes	0.	???
PINALOOH	0.1	see notes	0.	???
APINENE	0.1	see notes	0.	???
BPINENE	0.1	see notes	0.	???
CARENE	0.1	see notes	0.	???
SABINENE	0.1	see notes	0.	???
CAMPHENE	0.1	see notes	0.	???
PINAL	0.1	see notes	0.	???
PINENOL	0.1	see notes	0.	???
MENTHEN6ONE	0.1	see notes	0.	???
PINONIC	0.1	see notes	0.	???
C109OOH	0.1	see notes	0.	???
PERPINONIC	0.1	see notes	0.	???
C106OOH	0.1	see notes	0.	???
OH2MENTHEN6ONE	0.1	see notes	0.	???
BPINAOOH	0.1	see notes	0.	???
RO6R3OOH	0.1	see notes	0.	???
PINALNO3	0.1	see notes	0.	???
C10PAN2	0.1	see notes	0.	???
C106NO3	0.1	see notes	0.	???
BPINANO3	0.1	see notes	0.	???
RO6R1NO3	0.1	see notes	0.	???
RO6R3NO3	0.1	see notes	0.	???
ROO6R1NO3	0.1	see notes	0.	???
LAPINABOOH	0.1	see notes	0.	???
LAPINABNO3	0.1	see notes	0.	???
LNAPINABOOH	0.1	see notes	0.	???
LNBPINABOOH	0.1	see notes	0.	???
LHAROM	0.1	see notes	0.	???
CHF3	0.1	see notes	0.	???
CHF2CF3	0.1	see notes	0.	???
CH3CF3	0.1	see notes	0.	???
CH2F2	0.1	see notes	0.	???
CH3CHF2	0.1	see notes	0.	???
Cl2	0.038	Hu et al. (1995)	6546.	???
HCl	0.074	Schweitzer et al. (2000)	3072.	???
HOCl	0.5	see notes	0.	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
ClNO3	0.108	Deiber et al. (2004)	0.	???
CH3Cl	0.1	see notes	0.	???
CHF2Cl	0.1	see notes	0.	???
CH2FCF3	0.1	see notes	0.	???
CF2ClCFCl2	0.1	see notes	0.	???
CH2Cl2	0.1	see notes	0.	???
CH3CFCl2	0.1	see notes	0.	???
CF2ClCF2Cl	0.1	see notes	0.	???
CHCl3	0.1	see notes	0.	???
CF3CF2Cl	0.1	see notes	0.	???
Br2	0.038	Hu et al. (1995)	6546.	???
HBr	0.032	Schweitzer et al. (2000)	3940.	???
HOBr	0.5	Abbatt and Waschewsky (1998)	0.	???
BrNO3	0.063	Deiber et al. (2004)	0.	???
BrCl	0.038	see notes	6546.	???
CH3Br	0.1	see notes	0.	???
CHCl2Br	0.1	see notes	0.	???
CHClBr2	0.1	see notes	0.	???
CH2ClBr	0.1	see notes	0.	???
CH2Br2	0.1	see notes	0.	???
CHBr3	0.1	see notes	0.	???
I2	0.01	see notes	2000.	???
IO	0.5	see notes	2000.	???
OIO	0.01	see notes	0.	???
I2O2	0.1	see notes	2000.	???
HI	0.036	Schweitzer et al. (2000)	4130.	???
HOI	0.5	see notes	0.	???
HIO3	0.01	see notes	0.	???
INO2	0.1	see notes	2000.	???
INO3	0.1	see notes	2000.	???
ICl	0.018	Braban et al. (2007)	2000.	???
CH2ClI	0.1	see notes	0.	???
IBr	0.018	see notes	2000.	???
SO2	0.11	DeMore et al. (1997)	0.	???
H2SO4	0.65	Pöschl et al. (1998)	0.	???
CH3SO3H	0.076	De Bruyn et al. (1994)	1762.	???
DMS	0.1	see notes	0.	???
DMSO	0.048	De Bruyn et al. (1994)	2578.	???
CH3SO2	0.1	see notes	0.	???
CH3SO3	0.1	see notes	0.	???
Hg	0.1	see notes	0.	???
HgO	0.1	see notes	0.	???
HgCl	0.1	see notes	0.	???
HgCl2	0.1	see notes	0.	???
HgBr	0.1	see notes	0.	???
HgBr2	0.1	see notes	0.	???
ClHgBr	0.1	see notes	0.	???
BrHgOBr	0.1	see notes	0.	???
ClHgOBr	0.1	see notes	0.	???

KPP name	$\alpha^{\ominus}$	Reference	α-T-dep	Reference
ClHgOBr	0.1	see notes	0.	???
ISON	0.1	see notes	0.	???
ISOOH	0.1	see notes	0.	???
LTERP	0.1	see notes	0.	???
LALK4	0.1	see notes	0.	???
LALK5	0.1	see notes	0.	???
LARO1	0.1	see notes	0.	???
LARO2	0.1	see notes	0.	???
LOLE1	0.1	see notes	0.	???
LOLE2	0.1	see notes	0.	???
LfPOG02	0.1	see notes	0.	???
LfPOG03	0.1	see notes	0.	???
LfPOG04	0.1	see notes	0.	???
LfPOG05	0.1	see notes	0.	???
LbbPOG02	0.1	see notes	0.	???
LbbPOG03	0.1	see notes	0.	???
LbbPOG04	0.1	see notes	0.	???
LfSOGsv01	0.1	see notes	0.	???
LfSOGsv02	0.1	see notes	0.	???
LbbSOGsv01	0.1	see notes	0.	???
LbbSOGsv02	0.1	see notes	0.	???
LfSOGiv01	0.1	see notes	0.	???
LfSOGiv02	0.1	see notes	0.	???
LfSOGiv03	0.1	see notes	0.	???
LfSOGiv04	0.1	see notes	0.	???
LbbSOGiv01	0.1	see notes	0.	???
LbbSOGiv02	0.1	see notes	0.	???
LbbSOGiv03	0.1	see notes	0.	???
LbSOGv01	0.1	see notes	0.	???
LbSOGv02	0.1	see notes	0.	???
LbSOGv03	0.1	see notes	0.	???
LbSOGv04	0.1	see notes	0.	???
LbOSOGv01	0.1	see notes	0.	???
LbOSOGv02	0.1	see notes	0.	???
LbOSOGv03	0.1	see notes	0.	???
LaSOGv01	0.1	see notes	0.	???
LaSOGv02	0.1	see notes	0.	???
LaSOGv03	0.1	see notes	0.	???
LaSOGv04	0.1	see notes	0.	???
LaOSOGv01	0.1	see notes	0.	???
LaOSOGv02	0.1	see notes	0.	???
LaOSOGv03	0.1	see notes	0.	???

KPP name	K_a	Reference	K_{a2}	Reference
O2	9.99999	???	9.99999	???
O3	9.99999	???	9.99999	???
H	9.99999	???	9.99999	???
H2	9.99999	???	9.99999	???
OH	9.99999	???	9.99999	???
HO2	3.5E-5	Pandis and Seinfeld (1989)	9.99999	???
H2O	9.99999	???	9.99999	???
H2O2	9.99999	???	9.99999	???
NH3	-1.75E-5	Pandis and Seinfeld (1989)	9.99999	???
NO	9.99999	???	9.99999	???
NO2	9.99999	???	9.99999	???
NO3	9.99999	???	9.99999	???
N2O5	9.99999	???	9.99999	???
HONO	5.1E-4	Pandis and Seinfeld (1989)	9.99999	???
HNO3	15.4	Pandis and Seinfeld (1989)	9.99999	???
HNO4	9.99999	???	9.99999	???
NH2	9.99999	???	9.99999	???
HNO	9.99999	???	9.99999	???
NHOH	9.99999	???	9.99999	???
NH2O	9.99999	???	9.99999	???
NH2OH	9.99999	???	9.99999	???
CH4	9.99999	???	9.99999	???
CH3	9.99999	???	9.99999	???
CH3O	9.99999	???	9.99999	???
CO	9.99999	???	9.99999	???
CO2	9.99999	???	9.99999	???
HCHO	9.99999	???	9.99999	???
HCOOH	1.78E-4	Pandis and Seinfeld (1989)	9.99999	???
CH3O2	9.99999	???	9.99999	???
HOCH2O2	9.99999	???	9.99999	???
CH3OH	9.99999	???	9.99999	???
CH3OOH	9.99999	???	9.99999	???
HOCH2OOH	9.99999	???	9.99999	???
HOCH2OH	9.99999	???	9.99999	???
CH3ONO	9.99999	???	9.99999	???
CH3NO3	9.99999	???	9.99999	???
CH3O2NO2	9.99999	???	9.99999	???
HOCH2O2NO2	9.99999	???	9.99999	???
HCN	9.99999	???	9.99999	???
CH2CO	9.99999	???	9.99999	???
GLYOX	9.99999	???	9.99999	???
HCOCO2H	6.61E-4	Lide (2008)	9.99999	???
HCOCO3H	9.99999	???	9.99999	???
CH2CHOH	9.99999	???	9.99999	???
CH3CHO	9.99999	???	9.99999	???
CH3CO2H	1.75E-5	Lide (2008)	9.99999	???
HOCH2CHO	9.99999	???	9.99999	???
HOOCH2CHO	9.99999	???	9.99999	???
CH3CO3H	9.99999	???	9.99999	???

KPP name	K_a	Reference	K_{a2}	Reference
HOCH2CO2H	1.48E-4	Lide (2008)	9.99999	???
HOCH2CO3H	9.99999	???	9.99999	???
HOOCH2CO2H	9.99999	???	9.99999	???
HOOCH2CO3H	9.99999	???	9.99999	???
C2H5O2	9.99999	???	9.99999	???
C2H5OH	9.99999	???	9.99999	???
C2H5OOH	9.99999	???	9.99999	???
ETHGLY	9.99999	???	9.99999	???
HYETHO2H	9.99999	???	9.99999	???
CH3CHOHOOH	9.99999	???	9.99999	???
NO3CH2PAN	9.99999	???	9.99999	???
CH3CN	9.99999	???	9.99999	???
NO3CH2CHO	9.99999	???	9.99999	???
PAN	9.99999	???	9.99999	???
PHAN	9.99999	???	9.99999	???
ETHOHNO3	9.99999	???	9.99999	???
C2H5NO3	9.99999	???	9.99999	???
C2H5O2NO2	9.99999	???	9.99999	???
OXL	9.99999	???	9.99999	???
C33CO	9.99999	???	9.99999	???
ALCOCH2OOH	9.99999	???	9.99999	???
MGLYOX	9.99999	???	9.99999	???
HOCH2COCHO	9.99999	???	9.99999	???
HCOCH2CHO	9.99999	???	9.99999	???
HCOCH2CO2H	9.99999	???	9.99999	???
HCOCH2CO3H	9.99999	???	9.99999	???
CH3COCH3	9.99999	???	9.99999	???
ACETOL	9.99999	???	9.99999	???
HYPERACET	9.99999	???	9.99999	???
HOC2H4CO2H	9.99999	???	9.99999	???
HOC2H4CO3H	9.99999	???	9.99999	???
IC3H7OOH	9.99999	???	9.99999	???
HYPROPO2H	9.99999	???	9.99999	???
CH3CHCO	9.99999	???	9.99999	???
CH3COCO2H	4.07E-3	Lide (2008)	9.99999	???
CH3COCO3H	9.99999	???	9.99999	???
HCOCOCH2OOH	9.99999	???	9.99999	???
C2H5CHO	9.99999	???	9.99999	???
PROPENOL	9.99999	???	9.99999	???
C2H5CO2H	1.35E-5	Lide (2008)	9.99999	???
C2H5CO3H	9.99999	???	9.99999	???
HOCH2COCH2OOH	9.99999	???	9.99999	???
IPROPOL	9.99999	???	9.99999	???
NPROPOL	9.99999	???	9.99999	???
NC3H7OOH	9.99999	???	9.99999	???
C3DIALOOH	9.99999	???	9.99999	???
METACETHO	9.99999	???	9.99999	???
C32OH13CO	9.99999	???	9.99999	???
HCOCOHCO3H	9.99999	???	9.99999	???

KPP name	K_a	Reference	K_{a2}	Reference
C3PAN2	9.99999	???	9.99999	???
NOA	9.99999	???	9.99999	???
CH3COCH2O2NO2	9.99999	???	9.99999	???
PPN	9.99999	???	9.99999	???
C3PAN1	9.99999	???	9.99999	???
NC3H7NO3	9.99999	???	9.99999	???
IC3H7NO3	9.99999	???	9.99999	???
PROPOLNO3	9.99999	???	9.99999	???
PR2O2HNO3	9.99999	???	9.99999	???
HCOCOHPAN	9.99999	???	9.99999	???
HCOCCH3CO	9.99999	???	9.99999	???
CH3COCHCO	9.99999	???	9.99999	???
C4CODIAL	9.99999	???	9.99999	???
CO23C3CHO	9.99999	???	9.99999	???
C312COCO3H	9.99999	???	9.99999	???
CO2H3CHO	9.99999	???	9.99999	???
BIACETO2	9.99999	???	9.99999	???
CHOC3COO2	9.99999	???	9.99999	???
MACR	9.99999	???	9.99999	???
MVK	9.99999	???	9.99999	???
BIACET	9.99999	???	9.99999	???
MACO2H	2.24E-5	Dong et al. (2008)	9.99999	???
HVMK	9.99999	???	9.99999	???
HMAC	9.99999	???	9.99999	???
CO2C3CHO	9.99999	???	9.99999	???
IBUTDIAL	9.99999	???	9.99999	???
MACO3H	9.99999	???	9.99999	???
BIACETOH	9.99999	???	9.99999	???
CH3COOHCHCHO	9.99999	???	9.99999	???
HCOCCH3CHOOH	9.99999	???	9.99999	???
C413COOOH	9.99999	???	9.99999	???
BIACETOOH	9.99999	???	9.99999	???
CH3COCOCO2H	9.99999	???	9.99999	???
CO2H3CO2H	9.99999	???	9.99999	???
C44OOH	9.99999	???	9.99999	???
CO2H3CO3H	9.99999	???	9.99999	???
MACRN	9.99999	???	9.99999	???
MVKNO3	9.99999	???	9.99999	???
PIPN	9.99999	???	9.99999	???
MEK	9.99999	???	9.99999	???
HO12CO3C4	9.99999	???	9.99999	???
MACROH	9.99999	???	9.99999	???
MACROOH	9.99999	???	9.99999	???
BUTENOL	9.99999	???	9.99999	???
C3H7CHO	9.99999	???	9.99999	???
IPRCHO	9.99999	???	9.99999	???
MPROPENOL	9.99999	???	9.99999	???
IBUTALOH	9.99999	???	9.99999	???
BUT2OLO	9.99999	???	9.99999	???

KPP name	K_a	Reference	K_{a2}	Reference
PERIBUACID	9.99999	???	9.99999	???
IPRHOCO2H	9.99999	???	9.99999	???
IPRHOCO3H	9.99999	???	9.99999	???
IC4H9NO3	9.99999	???	9.99999	???
TC4H9NO3	9.99999	???	9.99999	???
BUT2OLNO3	9.99999	???	9.99999	???
TC4H9OOH	9.99999	???	9.99999	???
IC4H9OOH	9.99999	???	9.99999	???
IBUTOLBOOH	9.99999	???	9.99999	???
BUT2OLOOH	9.99999	???	9.99999	???
MALANHY	9.99999	???	9.99999	???
CO2C4DIAL	9.99999	???	9.99999	???
MALNHYOHCO	9.99999	???	9.99999	???
BZFUONE	9.99999	???	9.99999	???
MALDIAL	9.99999	???	9.99999	???
MALDALCO2H	9.99999	???	9.99999	???
EPXC4DIAL	9.99999	???	9.99999	???
HOCOC4DIAL	9.99999	???	9.99999	???
MALDALCO3H	9.99999	???	9.99999	???
BZFUCO	9.99999	???	9.99999	???
EPXDLCO2H	9.99999	???	9.99999	???
CO14O3CHO	9.99999	???	9.99999	???
CO14O3CO2H	9.99999	???	9.99999	???
EPXDLCO3H	9.99999	???	9.99999	???
MALANHYOOH	9.99999	???	9.99999	???
MALDIALOOH	9.99999	???	9.99999	???
BZFUOOH	9.99999	???	9.99999	???
MECOACEOOH	9.99999	???	9.99999	???
C312COPAN	9.99999	???	9.99999	???
MPAN	9.99999	???	9.99999	???
IBUTOLBNO3	9.99999	???	9.99999	???
C4PAN5	9.99999	???	9.99999	???
NC4DCO2H	9.99999	???	9.99999	???
MALDIALPAN	9.99999	???	9.99999	???
NBZFUONE	9.99999	???	9.99999	???
EPXDLPAN	9.99999	???	9.99999	???
NBZFUOOH	9.99999	???	9.99999	???
LMEKOOH	9.99999	???	9.99999	???
LHMVKABOOH	9.99999	???	9.99999	???
LC4H9OOH	9.99999	???	9.99999	???
LBUT1ENOOH	9.99999	???	9.99999	???
LMEKNO3	9.99999	???	9.99999	???
LC4H9NO3	9.99999	???	9.99999	???
LBUT1ENNO3	9.99999	???	9.99999	???
ME3FURAN	9.99999	???	9.99999	???
ZCODC23DBCOD	9.99999	???	9.99999	???
CO13C4CHO	9.99999	???	9.99999	???
CO23C4CHO	9.99999	???	9.99999	???
ZCO3HC23DBCOD	9.99999	???	9.99999	???

KPP name	K_a	Reference	K_{a2}	Reference
C513CO	9.99999	???	9.99999	???
CHOC3COOOH	9.99999	???	9.99999	???
CO23C4CO3H	9.99999	???	9.99999	???
C5H8	9.99999	???	9.99999	???
HCOC5	9.99999	???	9.99999	???
ZCODC23DBCOOH	9.99999	???	9.99999	???
MBOCOCO	9.99999	???	9.99999	???
C511OOH	9.99999	???	9.99999	???
C514OOH	9.99999	???	9.99999	???
C512OOH	9.99999	???	9.99999	???
C1ODC2OOHC4OD	9.99999	???	9.99999	???
C513OOH	9.99999	???	9.99999	???
C1ODC2O2C4OOH	9.99999	???	9.99999	???
C1ODC3O2C4OOH	9.99999	???	9.99999	???
MBO	9.99999	???	9.99999	???
ISOPAOH	9.99999	???	9.99999	???
ISOPBOH	9.99999	???	9.99999	???
ISOPDOH	9.99999	???	9.99999	???
ISOPBOOH	9.99999	???	9.99999	???
ISOPDOOH	9.99999	???	9.99999	???
MBOACO	9.99999	???	9.99999	???
DB1OOH	9.99999	???	9.99999	???
C59OOH	9.99999	???	9.99999	???
C1OOHC2OOHC4OD	9.99999	???	9.99999	???
DB2OOH	9.99999	???	9.99999	???
C4CO2DBCO3	9.99999	???	9.99999	???
MMALANHY	9.99999	???	9.99999	???
C54CO	9.99999	???	9.99999	???
C4CO2DCO3H	9.99999	???	9.99999	???
C5DIALCO	9.99999	???	9.99999	???
ACCOMECO3	9.99999	???	9.99999	???
MMALANHYO2	9.99999	???	9.99999	???
TLFUONE	9.99999	???	9.99999	???
C5DICARB	9.99999	???	9.99999	???
MC3ODBCO2H	9.99999	???	9.99999	???
C5CO14OH	9.99999	???	9.99999	???
C5134CO2OH	9.99999	???	9.99999	???
C5DIALOOH	9.99999	???	9.99999	???
ACCOMECHO	9.99999	???	9.99999	???
C5CO14OOH	9.99999	???	9.99999	???
C24O3CCO2H	9.99999	???	9.99999	???
MMALNHYOOH	9.99999	???	9.99999	???
ACCOMECO3H	9.99999	???	9.99999	???
TLFUOOH	9.99999	???	9.99999	???
C5DICAROOH	9.99999	???	9.99999	???
CHOC3COPAN	9.99999	???	9.99999	???
ZCPANC23DBCOD	9.99999	???	9.99999	???
C5PAN9	9.99999	???	9.99999	???
NC4CHO	9.99999	???	9.99999	???

KPP name	K_a	Reference	K_{a2}	Reference
C514NO3	9.99999	???	9.99999	???
NC4OHCPAN	9.99999	???	9.99999	???
ISOPBNO3	9.99999	???	9.99999	???
ISOPDNO3	9.99999	???	9.99999	???
NISOPOOH	9.99999	???	9.99999	???
NMBOBCO	9.99999	???	9.99999	???
C4MCONO3OH	9.99999	???	9.99999	???
DB1NO3	9.99999	???	9.99999	???
NC4OHCO3H	9.99999	???	9.99999	???
C4CO2DBPAN	9.99999	???	9.99999	???
NC4MDCO2H	9.99999	???	9.99999	???
C5COO2NO2	9.99999	???	9.99999	???
ACCOMEPAN	9.99999	???	9.99999	???
NTLFUOOH	9.99999	???	9.99999	???
LHC4ACCHO	9.99999	???	9.99999	???
LHC4ACCO2H	9.99999	???	9.99999	???
LHC4ACCO3H	9.99999	???	9.99999	???
LIEPOX	9.99999	???	9.99999	???
LISOPACOOH	9.99999	???	9.99999	???
LC578OOH	9.99999	???	9.99999	???
LMBOABOOH	9.99999	???	9.99999	???
LC5PAN1719	9.99999	???	9.99999	???
LISOPACNO3	9.99999	???	9.99999	???
LNMBOABOOH	9.99999	???	9.99999	???
LMBOABNO3	9.99999	???	9.99999	???
LNISOOH	9.99999	???	9.99999	???
C614CO	9.99999	???	9.99999	???
CO235C6OOH	9.99999	???	9.99999	???
C614OOH	9.99999	???	9.99999	???
PBZQONE	9.99999	???	9.99999	???
CATECHOL	9.99999	???	9.99999	???
C6CO4DB	9.99999	???	9.99999	???
PBZQCO	9.99999	???	9.99999	???
C6H5O	9.99999	???	9.99999	???
CATEC1O	9.99999	???	9.99999	???
C5CO2DBCO3	9.99999	???	9.99999	???
C5CO2DCO3H	9.99999	???	9.99999	???
C5CO2OHCO3	9.99999	???	9.99999	???
BENZENE	9.99999	???	9.99999	???
PHENOL	9.99999	???	9.99999	???
C6H5OOH	9.99999	???	9.99999	???
BZEPOXMUC	9.99999	???	9.99999	???
C6125CO	9.99999	???	9.99999	???
CATEC1OOH	9.99999	???	9.99999	???
BZEMUCCO2H	9.99999	???	9.99999	???
BZOBIPEROH	9.99999	???	9.99999	???
BZEMUCCO	9.99999	???	9.99999	???
PBZQOOH	9.99999	???	9.99999	???
BZEMUCCO3H	9.99999	???	9.99999	???

KPP name	K_a	Reference	K_{a2}	Reference
C5COOHCO3H	9.99999	???	9.99999	???
C615CO2OOH	9.99999	???	9.99999	???
BZBIPEROOH	9.99999	???	9.99999	???
PHENOOH	9.99999	???	9.99999	???
BZEMUCOOH	9.99999	???	9.99999	???
C614NO3	9.99999	???	9.99999	???
NPHEN1O	9.99999	???	9.99999	???
DNPHEN	9.99999	???	9.99999	???
HOC6H4NO2	9.99999	???	9.99999	???
NCATECHOL	9.99999	???	9.99999	???
NPHEN1OOH	9.99999	???	9.99999	???
BZEMUCPAN	9.99999	???	9.99999	???
C5CO2DBPAN	9.99999	???	9.99999	???
NBZQOOH	9.99999	???	9.99999	???
C5CO2OHPAN	9.99999	???	9.99999	???
NDNPHENOOH	9.99999	???	9.99999	???
DNPHENOOH	9.99999	???	9.99999	???
NNCATECOOH	9.99999	???	9.99999	???
BZBIPERNO3	9.99999	???	9.99999	???
BZEMUCNO3	9.99999	???	9.99999	???
NPHENOOH	9.99999	???	9.99999	???
NCATECOOH	9.99999	???	9.99999	???
CO235C6CHO	9.99999	???	9.99999	???
C235C6CO3H	9.99999	???	9.99999	???
C716OOH	9.99999	???	9.99999	???
C721OOH	9.99999	???	9.99999	???
C722OOH	9.99999	???	9.99999	???
BENZAL	9.99999	???	9.99999	???
PHCOOH	6.25E-5	Lide (2008)	9.99999	???
PTLQONE	9.99999	???	9.99999	???
C6H5CO3H	9.99999	???	9.99999	???
C7CO4DB	9.99999	???	9.99999	???
PTLQCO	9.99999	???	9.99999	???
TOL1O	9.99999	???	9.99999	???
MCATEC1O	9.99999	???	9.99999	???
TOLUENE	9.99999	???	9.99999	???
CRESOL	9.99999	???	9.99999	???
OXYL1OOH	9.99999	???	9.99999	???
C6H5CH2OOH	9.99999	???	9.99999	???
MCATECHOL	9.99999	???	9.99999	???
TLEPOXMUC	9.99999	???	9.99999	???
MCATEC1OOH	9.99999	???	9.99999	???
TLEMUCCO2H	9.99999	???	9.99999	???
TLOBIPEROH	9.99999	???	9.99999	???
PTLQOOH	9.99999	???	9.99999	???
TLEMUCCO	9.99999	???	9.99999	???
TLEMUCCO3H	9.99999	???	9.99999	???
C6COOHCO3H	9.99999	???	9.99999	???
TLBIPEROOH	9.99999	???	9.99999	???

KPP name	K_a	Reference	K_{a2}	Reference
CRESOOH	9.99999	???	9.99999	???
TLEMUCOOH	9.99999	???	9.99999	???
C7PAN3	9.99999	???	9.99999	???
PBZN	9.99999	???	9.99999	???
NCRES1O	9.99999	???	9.99999	???
DNCRES	9.99999	???	9.99999	???
TOL1OHNO2	9.99999	???	9.99999	???
C6H5CH2NO3	9.99999	???	9.99999	???
MNCATECH	9.99999	???	9.99999	???
NCRES1OOH	9.99999	???	9.99999	???
NPTLQOOH	9.99999	???	9.99999	???
TLEMUCPAN	9.99999	???	9.99999	???
C6CO2OHPAN	9.99999	???	9.99999	???
NDNCRESOOH	9.99999	???	9.99999	???
DNCRESOOH	9.99999	???	9.99999	???
MNNCATCOOH	9.99999	???	9.99999	???
TLBIPERNO3	9.99999	???	9.99999	???
TLEMUCNO3	9.99999	???	9.99999	???
NCRESOOH	9.99999	???	9.99999	???
MNCATECOOH	9.99999	???	9.99999	???
C8BCCO	9.99999	???	9.99999	???
C8BCOOH	9.99999	???	9.99999	???
C721CHO	9.99999	???	9.99999	???
NORPINIC	6.166E-05	see notes	2.291E-06	see notes
C721CO3H	9.99999	???	9.99999	???
C8BC	9.99999	???	9.99999	???
C85OOH	9.99999	???	9.99999	???
C86OOH	9.99999	???	9.99999	???
C812OOH	9.99999	???	9.99999	???
C813OOH	9.99999	???	9.99999	???
C89OOH	9.99999	???	9.99999	???
C810OOH	9.99999	???	9.99999	???
STYRENE	9.99999	???	9.99999	???
LXYL	9.99999	???	9.99999	???
EBENZ	9.99999	???	9.99999	???
STYRENOOH	9.99999	???	9.99999	???
C8BCNO3	9.99999	???	9.99999	???
C721PAN	9.99999	???	9.99999	???
C89NO3	9.99999	???	9.99999	???
C810NO3	9.99999	???	9.99999	???
NSTYRENOOH	9.99999	???	9.99999	???
NOPINDCO	9.99999	???	9.99999	???
C85CO3H	9.99999	???	9.99999	???
NOPINONE	9.99999	???	9.99999	???
NOPINOO	9.99999	???	9.99999	???
NORPINAL	9.99999	???	9.99999	???
NORPINENOL	9.99999	???	9.99999	???
C89CO2H	9.99999	???	9.99999	???
NOPINDOOH	9.99999	???	9.99999	???

KPP name	K_a	Reference	K_{a2}	Reference
RO6R3P	9.99999	???	9.99999	???
C89CO3H	9.99999	???	9.99999	???
PINIC	6.166E-05	see notes	2.291E-06	see notes
C811CO3H	9.99999	???	9.99999	???
C96OOH	9.99999	???	9.99999	???
C97OOH	9.99999	???	9.99999	???
C98OOH	9.99999	???	9.99999	???
C89PAN	9.99999	???	9.99999	???
C9PAN2	9.99999	???	9.99999	???
C811PAN	9.99999	???	9.99999	???
C96NO3	9.99999	???	9.99999	???
LTMB	9.99999	???	9.99999	???
C109CO	9.99999	???	9.99999	???
PINALOOH	9.99999	???	9.99999	???
APINENE	9.99999	???	9.99999	???
BPINENE	9.99999	???	9.99999	???
CARENE	9.99999	???	9.99999	???
SABINENE	9.99999	???	9.99999	???
CAMPHENE	9.99999	???	9.99999	???
PINAL	9.99999	???	9.99999	???
PINENOL	9.99999	???	9.99999	???
MENTHEN6ONE	9.99999	???	9.99999	???
PINONIC	9.99999	???	9.99999	???
C109OOH	9.99999	???	9.99999	???
PERPINONIC	9.99999	???	9.99999	???
C106OOH	9.99999	???	9.99999	???
OH2MENTHEN6ONE	9.99999	???	9.99999	???
BPINAOOH	9.99999	???	9.99999	???
RO6R3OOH	9.99999	???	9.99999	???
PINALNO3	9.99999	???	9.99999	???
C10PAN2	9.99999	???	9.99999	???
C106NO3	9.99999	???	9.99999	???
BPINANO3	9.99999	???	9.99999	???
RO6R1NO3	9.99999	???	9.99999	???
RO6R3NO3	9.99999	???	9.99999	???
ROO6R1NO3	9.99999	???	9.99999	???
LAPINABOOH	9.99999	???	9.99999	???
LAPINABNO3	9.99999	???	9.99999	???
LNAPINABOOH	9.99999	???	9.99999	???
LNBPINABOOH	9.99999	???	9.99999	???
LHAROM	9.99999	???	9.99999	???
CHF3	9.99999	???	9.99999	???
CHF2CF3	9.99999	???	9.99999	???
CH3CF3	9.99999	???	9.99999	???
CH2F2	9.99999	???	9.99999	???
CH3CHF2	9.99999	???	9.99999	???
Cl2	9.99999	???	9.99999	???
HCl	9.99999	???	9.99999	???
HOCl	9.99999	???	9.99999	???

KPP name	K_a	Reference	K_{a2}	Reference
ClNO3	9.99999	???	9.99999	???
CH3Cl	9.99999	???	9.99999	???
CHF2Cl	9.99999	???	9.99999	???
CH2FCF3	9.99999	???	9.99999	???
CF2ClCFCl2	9.99999	???	9.99999	???
CH2Cl2	9.99999	???	9.99999	???
CH3CFCl2	9.99999	???	9.99999	???
CF2ClCF2Cl	9.99999	???	9.99999	???
CHCl3	9.99999	???	9.99999	???
CF3CF2Cl	9.99999	???	9.99999	???
Br2	9.99999	???	9.99999	???
HBr	9.99999	???	9.99999	???
HOBr	9.99999	???	9.99999	???
BrNO3	9.99999	???	9.99999	???
BrCl	9.99999	???	9.99999	???
CH3Br	9.99999	???	9.99999	???
CHCl2Br	9.99999	???	9.99999	???
CHClBr2	9.99999	???	9.99999	???
CH2ClBr	9.99999	???	9.99999	???
CH2Br2	9.99999	???	9.99999	???
CHBr3	9.99999	???	9.99999	???
I2	9.99999	???	9.99999	???
IO	9.99999	???	9.99999	???
OIO	9.99999	???	9.99999	???
I2O2	9.99999	???	9.99999	???
HI	9.99999	???	9.99999	???
HOI	9.99999	???	9.99999	???
HIO3	9.99999	???	9.99999	???
INO2	9.99999	???	9.99999	???
INO3	9.99999	???	9.99999	???
ICl	9.99999	???	9.99999	???
CH2ClI	9.99999	???	9.99999	???
IBr	9.99999	???	9.99999	???
SO2	1.23E-2	Pandis and Seinfeld (1989)	6.61E-8	Pandis and Seinfeld (1989)
H2SO4	1E3	see notes	1.023E-2	see notes
CH3SO3H	9.99999	???	9.99999	???
DMS	9.99999	???	9.99999	???
DMSO	9.99999	???	9.99999	???
CH3SO2	9.99999	???	9.99999	???
CH3SO3	9.99999	???	9.99999	???
Hg	9.99999	???	9.99999	???
HgO	9.99999	???	9.99999	???
HgCl	9.99999	???	9.99999	???
HgCl2	9.99999	???	9.99999	???
HgBr	9.99999	???	9.99999	???
HgBr2	9.99999	???	9.99999	???
ClHgBr	9.99999	???	9.99999	???
BrHgOBr	9.99999	???	9.99999	???
ClHgOBr	9.99999	???	9.99999	???

KPP name	K_a	Reference	K_{a2}	Reference
ClHgOBr	9.99999	???	9.99999	???
ISON	9.99999	???	9.99999	???
ISOOH	9.99999	???	9.99999	???
LTERP	9.99999	???	9.99999	???
LALK4	9.99999	???	9.99999	???
LALK5	9.99999	???	9.99999	???
LARO1	9.99999	???	9.99999	???
LARO2	9.99999	???	9.99999	???
LOLE1	9.99999	???	9.99999	???
LOLE2	9.99999	???	9.99999	???
LfPOG02	9.99999	???	9.99999	???
LfPOG03	9.99999	???	9.99999	???
LfPOG04	9.99999	???	9.99999	???
LfPOG05	9.99999	???	9.99999	???
LbbPOG02	9.99999	???	9.99999	???
LbbPOG03	9.99999	???	9.99999	???
LbbPOG04	9.99999	???	9.99999	???
LfSOGsv01	9.99999	???	9.99999	???
LfSOGsv02	9.99999	???	9.99999	???
LbbSOGsv01	9.99999	???	9.99999	???
LbbSOGsv02	9.99999	???	9.99999	???
LfSOGiv01	9.99999	???	9.99999	???
LfSOGiv02	9.99999	???	9.99999	???
LfSOGiv03	9.99999	???	9.99999	???
LfSOGiv04	9.99999	???	9.99999	???
LbbSOGiv01	9.99999	???	9.99999	???
LbbSOGiv02	9.99999	???	9.99999	???
LbbSOGiv03	9.99999	???	9.99999	???
LbSOGv01	9.99999	???	9.99999	???
LbSOGv02	9.99999	???	9.99999	???
LbSOGv03	9.99999	???	9.99999	???
LbSOGv04	9.99999	???	9.99999	???
LbOSOGv01	9.99999	???	9.99999	???
LbOSOGv02	9.99999	???	9.99999	???
LbOSOGv03	9.99999	???	9.99999	???
LaSOGv01	9.99999	???	9.99999	???
LaSOGv02	9.99999	???	9.99999	???
LaSOGv03	9.99999	???	9.99999	???
LaSOGv04	9.99999	???	9.99999	???
LaOSOGv01	9.99999	???	9.99999	???
LaOSOGv02	9.99999	???	9.99999	???
LaOSOGv03	9.99999	???	9.99999	???

KPP name	pss	Reference	dryreac	Reference
O2	0.0	???	0.0	???
O3	0.01	???	1.0	???
H	-9.99999	???	-9.99999	???
H2	-9.99999	???	-9.99999	???
OH	25.	???	0.0	???
HO2	1.37E6	???	1.0	???
H2O	0.0	???	0.0	???
H2O2	7.45E4	???	1.0	???
NH3	1.02E4	???	0.0	???
NO	2.E-3	???	1.0	???
NO2	1.0E-2	???	1.0	???
NO3	1.8	???	1.0	???
N2O5	1.E4	???	1.0	???
HONO	5.05E4	???	0.1	???
HNO3	1.E4	???	1.0	???
HNO4	1.E4	???	1.0	???
NH2	-9.99999	???	0.0	???
HNO	-9.99999	???	0.0	???
NHOH	-9.99999	???	0.0	???
NH2O	-9.99999	???	0.0	???
NH2OH	-9.99999	???	0.0	???
CH4	-9.99999	???	-9.99999	???
CH3	-9.99999	???	-9.99999	???
CH3O	-9.99999	???	-9.99999	???
CO	-9.99999	???	-9.99999	???
CO2	0.0	???	0.0	???
HCHO	3.2E3	???	0.1	???
HCOOH	6.7E6	???	0.0	???
CH3O2	6.	???	1.0	???
HOCH2O2	4.6E4	???	1.0	???
CH3OH	2.2E2	???	0.1	???
CH3OOH	3.E2	???	0.1	???
HOCH2OOH	1.7E6	???	0.1	???
HOCH2OH	1.7E6	???	0.1	???
CH3ONO	2.	???	0.1	???
CH3NO3	2.	???	0.1	???
CH3O2NO2	2.	???	0.1	???
HOCH2O2NO2	2.	???	0.1	???
HCN	7.6	???	0.1	???
CH2CO	1.0E6	???	0.1	???
GLYOX	4.2E5	???	0.1	???
HCOCO2H	6.6E7	???	0.1	???
HCOCO3H	2.7E6	???	0.1	???
CH2CHOH	2.0E2	???	0.1	???
CH3CHO	1.3E1	???	0.1	???
CH3CO2H	7.4E5	???	0.1	???
HOCH2CHO	4.10E4	???	0.1	???
HOOCH2CHO	1.0E6	???	0.1	???
CH3CO3H	8.4E2	???	0.1	???

KPP name	pss	Reference	dryreac	Reference
HOCH2CO2H	4.2E7	???	0.1	???
HOCH2CO3H	4.2E5	???	0.1	???
HOOCH2CO2H	4.2E7	???	0.1	???
HOOCH2CO3H	1.0E6	???	0.1	???
C2H5O2	0.0	???	0.0	???
C2H5OH	2.0E2	???	0.1	???
C2H5OOH	3.4E2	???	0.1	???
ETHGLY	4.0E6	???	0.1	???
HYETHO2H	4.0E6	???	0.1	???
CH3CHOHOOH	1.0E6	???	0.1	???
NO3CH2PAN	2.8	???	0.1	???
CH3CN	5.3	???	0.1	???
NO3CH2CHO	1.6	???	0.1	???
PAN	2.8	???	0.1	???
PHAN	4.E4	???	0.1	???
ETHOHNO3	3.9E4	???	0.1	???
C2H5NO3	1.6	???	0.1	???
C2H5O2NO2	1.6	???	0.1	???
OXL	3.26E6	???	0.1	???
C33CO	9.0E3	???	0.1	???
ALCOCH2OOH	1.0E6	???	0.1	???
MGLYOX	3.7E3	???	0.1	???
HOCH2COCHO	4.1E5	???	0.1	???
HCOCH2CHO	1.0E6	???	0.1	???
HCOCH2CO2H	6.6E7	???	0.1	???
HCOCH2CO3H	1.0E6	???	0.1	???
CH3COCH3	3.E1	???	0.1	???
ACETOL	4.7E2	???	-9.99999	???
HYPERACET	4.7E2	???	0.1	???
HOC2H4CO2H	4.2E7	???	0.1	???
HOC2H4CO3H	1.0E6	???	0.1	???
IC3H7OOH	1.3E2	???	0.1	???
HYPROPO2H	9.2E5	???	0.1	???
CH3CHCO	1.0E6	???	0.1	???
CH3COCO2H	4.3E8	???	0.1	???
CH3COCO3H	1.0E6	???	0.1	???
HCOCOCH2OOH	1.0E6	???	0.1	???
C2H5CHO	1.3E1	???	0.1	???
PROPENOL	1.3E1	???	0.1	???
C2H5CO2H	3.E5	???	0.1	???
C2H5CO3H	1.5E3	???	0.1	???
HOCH2COCH2OOH	1.0E6	???	0.1	???
IPROPOL	1.3E2	???	0.1	???
NPROPOL	1.3E2	???	0.1	???
NC3H7OOH	1.3E2	???	0.1	???
C3DIALOOH	9.0E3	???	0.1	???
METACETHO	3.7E3	???	0.1	???
C32OH13CO	9.0E3	???	0.1	???
HCOCOHCO3H	2.0E6	???	0.1	???

KPP name	pss	Reference	dryreac	Reference
C3PAN2	1.0E6	???	0.1	???
NOA	1.0E3	???	0.1	???
CH3COCH2O2NO2	1.0E3	???	0.1	???
PPN	2.8	???	0.1	???
C3PAN1	1.0E6	???	0.1	???
NC3H7NO3	0.83E0	???	0.1	???
IC3H7NO3	0.83E0	???	0.1	???
PROPOLNO3	4.5E3	???	0.1	???
PR2O2HNO3	1.1E4	???	0.1	???
HCOCOHPAN	4.0E4	???	0.1	???
HCOCCH3CO	1.0E6	???	0.1	???
CH3COCHCO	1.0E6	???	0.1	???
C4CODIAL	1.0E6	???	0.1	???
CO23C3CHO	3.6E5	???	0.1	???
C312COCO3H	1.0E6	???	0.1	???
CO2H3CHO	4.1E5	???	0.1	???
BIACETO2	1.0E6	???	0.1	???
CHOC3COO2	1.0E6	???	0.1	???
MACR	5.0E1	???	0.1	???
MVK	2.3E1	???	0.1	???
BIACET	7.4E1	???	0.1	???
MACO2H	5.8E5	???	0.1	???
HVMK	1.7E3	???	0.1	???
HMAC	1.7E3	???	0.1	???
CO2C3CHO	1.7E3	???	0.1	???
IBUTDIAL	1.7E3	???	0.1	???
MACO3H	3.4E3	???	0.1	???
BIACETOH	1.3E3	???	0.1	???
CH3COOHCHCHO	1.0E6	???	0.1	???
HCOCCH3CHOOH	1.0E6	???	0.1	???
C413COOOH	1.0E6	???	0.1	???
BIACETOOH	1.0E6	???	0.1	???
CH3COCOCO2H	4.3E8	???	0.1	???
CO2H3CO2H	1.0E6	???	0.1	???
C44OOH	1.0E6	???	0.1	???
CO2H3CO3H	1.E6	???	0.1	???
MACRN	1.0E6	???	0.1	???
MVKNO3	1.0E6	???	0.1	???
PIPN	2.9	???	0.1	???
MEK	2.E1	???	0.1	???
HO12CO3C4	5.E7	???	0.1	???
MACROH	5.E7	???	0.1	???
MACROOH	5.E7	???	0.1	???
BUTENOL	8.9	???	0.1	???
C3H7CHO	8.9	???	0.1	???
IPRCHO	5.9E-1	???	0.1	???
MPROPENOL	5.9E-1	???	0.1	???
IBUTALOH	1.0E6	???	0.1	???
BUT2OLO	1.0E3	???	0.1	???

KPP name	pss	Reference	dryreac	Reference
PERIBUACID	9.7E2	???	0.1	???
IPRHOCO2H	4.2E7	???	0.1	???
IPRHOCO3H	1.0E6	???	0.1	???
IC4H9NO3	6.4E-3	???	0.1	???
TC4H9NO3	6.4E-3	???	0.1	???
BUT2OLNO3	8.8E1	???	0.1	???
TC4H9OOH	7.0E1	???	0.1	???
IC4H9OOH	1.1E2	???	0.1	???
IBUTOLBOOH	1.0E6	???	0.1	???
BUT2OLOOH	1.0E6	???	0.1	???
MALANHY	36.	???	0.1	???
CO2C4DIAL	2.0E6	???	0.1	???
MALNHYOHCO	2.0E6	???	0.1	???
BZFUONE	36.	???	0.1	???
MALDIAL	3.6E5	???	0.1	???
MALDALCO2H	6.6E7	???	0.1	???
EPXC4DIAL	3.6E5	???	0.1	???
HOCOC4DIAL	3.1E5	???	0.1	???
MALDALCO3H	9.0E3	???	0.1	???
BZFUCO	9.0E3	???	0.1	???
EPXDLCO2H	6.6E7	???	0.1	???
CO14O3CHO	3.6E5	???	0.1	???
CO14O3CO2H	6.6E7	???	0.1	???
EPXDLCO3H	9.0E3	???	0.1	???
MALANHYOOH	2.0E6	???	0.1	???
MALDIALOOH	2.0E6	???	0.1	???
BZFUOOH	2.0E6	???	0.1	???
MECOACEOOH	3.1E5	???	0.1	???
C312COPAN	1.0E6	???	0.1	???
MPAN	3.6	???	0.1	???
IBUTOLBNO3	8.8E1	???	0.1	???
C4PAN5	1.0E6	???	0.1	???
NC4DCO2H	6.6E7	???	0.1	???
MALDIALPAN	2.8	???	0.1	???
NBZFUONE	20.	???	0.1	???
EPXDLPAN	2.8	???	0.1	???
NBZFUOOH	2.4E4	???	0.1	???
LMEKOOH	1.E3	???	0.1	???
LHMVKABOOH	5.E6	???	-9.99999	???
LC4H9OOH	1.1E2	???	0.1	???
LBUT1ENOOH	1.0E6	???	0.1	???
LMEKNO3	0.86E0	???	0.1	???
LC4H9NO3	6.4E-3	???	0.1	???
LBUT1ENNO3	8.8E1	???	0.1	???
ME3FURAN	1.0E6	???	0.1	???
ZCODC23DBCOD	1.0E6	???	0.1	???
CO13C4CHO	1.0E6	???	0.1	???
CO23C4CHO	1.0E6	???	0.1	???
ZCO3HC23DBCOD	1.0E6	???	0.1	???

KPP name	pss	Reference	dryreac	Reference
C513CO	1.0E6	???	0.1	???
CHOC3COOOH	1.0E6	???	0.1	???
CO23C4CO3H	1.0E6	???	0.1	???
C5H8	0.01	???	0.0	???
HCOC5	4.7E2	???	0.1	???
ZCODC23DBCOOH	1.0E6	???	0.1	???
MBOCOCO	1.0E6	???	0.1	???
C511OOH	1.0E6	???	0.1	???
C514OOH	1.0E6	???	0.1	???
C512OOH	1.0E6	???	0.1	???
C1ODC2OOHC4OD	1.0E6	???	0.1	???
C513OOH	1.0E6	???	0.1	???
C1ODC2O2C4OOH	1.0E6	???	0.1	???
C1ODC3O2C4OOH	1.0E6	???	0.1	???
MBO	1.0E6	???	0.1	???
ISOPAOH	4.E6	???	0.1	???
ISOPBOH	3.E6	???	0.1	???
ISOPDOH	3.E6	???	0.1	???
ISOPBOOH	3.E6	???	0.1	???
ISOPDOOH	3.E6	???	0.1	???
MBOACO	1.0E6	???	0.1	???
DB1OOH	1.0E6	???	0.1	???
C59OOH	3.E11	???	0.1	???
C1OOHC2OOHC4OD	1.0E6	???	0.1	???
DB2OOH	1.0E6	???	0.1	???
C4CO2DBCO3	-9.99999	???	0.1	???
MMALANHY	20.	???	0.1	???
C54CO	3.6E5	???	0.1	???
C4CO2DCO3H	2.0E6	???	0.1	???
C5DIALCO	9.0E3	???	0.1	???
ACCOMECO3	-9.99999	???	0.1	???
MMALANHYO2	-9.99999	???	0.1	???
TLFUONE	3.6E1	???	0.1	???
C5DICARB	3.7E3	???	0.1	???
MC3ODBCO2H	6.6E7	???	0.1	???
C5CO14OH	2.2E3	???	0.1	???
C5134CO2OH	3.1E5	???	0.1	???
C5DIALOOH	3.6E5	???	0.1	???
ACCOMECHO	3.7E3	???	0.1	???
C5CO14OOH	3.1E5	???	0.1	???
C24O3CCO2H	7.4E5	???	0.1	???
MMALNHYOOH	2.0E6	???	0.1	???
ACCOMECO3H	3.1E5	???	0.1	???
TLFUOOH	2.0E6	???	0.1	???
C5DICAROOH	2.0E6	???	0.1	???
CHOC3COPAN	1.0E6	???	0.1	???
ZCPANC23DBCOD	1.E1	???	0.1	???
C5PAN9	1.0E6	???	0.1	???
NC4CHO	9.6	???	0.1	???

KPP name	pss	Reference	dryreac	Reference
C514NO3	1.0E6	???	0.1	???
NC4OHCPAN	1.0E6	???	0.1	???
ISOPBNO3	8.9E3	???	0.1	???
ISOPDNO3	8.9E3	???	0.1	???
NISOPOOH	2.E4	???	0.1	???
NMBOBCO	1.0E6	???	0.1	???
C4MCONO3OH	1.0E6	???	0.1	???
DB1NO3	1.0E4	???	0.1	???
NC4OHCO3H	1.0E6	???	0.1	???
C4CO2DBPAN	4.0E4	???	0.1	???
NC4MDCO2H	6.6E7	???	0.1	???
C5COO2NO2	2.8	???	0.1	???
ACCOMEPAN	2.8	???	0.1	???
NTLFUOOH	9.0E3	???	0.1	???
LHC4ACCHO	4.E5	???	0.1	???
LHC4ACCO2H	6.6E7	???	0.1	???
LHC4ACCO3H	2.2E5	???	0.1	???
LIEPOX	1.0E6	???	0.1	???
LISOPACOOH	4.E6	???	0.1	???
LC578OOH	3.E11	???	0.1	???
LMBOABOOH	1.0E6	???	0.1	???
LC5PAN1719	6.E4	???	0.1	???
LISOPACNO3	2.E4	???	0.1	???
LNMBOABOOH	1.0E6	???	0.1	???
LMBOABNO3	1.0E6	???	0.1	???
LNISOOH	6.E3	???	0.1	???
C614CO	1.0E6	???	0.1	???
CO235C6OOH	1.0E6	???	0.1	???
C614OOH	1.0E6	???	0.1	???
PBZQONE	20.	???	0.1	???
CATECHOL	4.6E3	???	0.1	???
C6CO4DB	2.0E6	???	0.1	???
PBZQCO	4.6E3	???	0.1	???
C6H5O	2.9E3	???	0.1	???
CATEC1O	4.6E3	???	0.1	???
C5CO2DBCO3	-9.99999	???	0.1	???
C5CO2DCO3H	2.0E6	???	0.1	???
C5CO2OHCO3	-9.99999	???	0.1	???
BENZENE	1.8E-1	???	0.1	???
PHENOL	2.9E3	???	0.1	???
C6H5OOH	2.9E3	???	0.1	???
BZEPOXMUC	3.6E5	???	0.1	???
C6125CO	3.7E3	???	0.1	???
CATEC1OOH	4.6E3	???	0.1	???
BZEMUCCO2H	6.6E7	???	0.1	???
BZOBIPEROH	9.0E3	???	0.1	???
BZEMUCCO	9.0E3	???	0.1	???
PBZQOOH	2.0E6	???	0.1	???
BZEMUCCO3H	9.0E3	???	0.1	???

KPP name	pss	Reference	dryreac	Reference
C5COOHCO3H	2.0E6	???	0.1	???
C615CO2OOH	3.1E5	???	0.1	???
BZBIPEROOH	2.0E6	???	0.1	???
PHENOOH	2.0E6	???	0.1	???
BZEMUCOOH	2.0E6	???	0.1	???
C614NO3	1.0E6	???	0.1	???
NPHEN1O	70.	???	0.1	???
DNPHEN	2.3E3	???	0.1	???
HOC6H4NO2	70.	???	0.1	???
NCATECHOL	4.6E3	???	0.1	???
NPHEN1OOH	70.	???	0.1	???
BZEMUCPAN	2.8	???	0.1	???
C5CO2DBPAN	3.7E3	???	0.1	???
NBZQOOH	2.4E4	???	0.1	???
C5CO2OHPAN	4.0E4	???	0.1	???
NDNPHENOOH	2.3E3	???	0.1	???
DNPHENOOH	2.3E3	???	0.1	???
NNCATECOOH	2.3E3	???	0.1	???
BZBIPERNO3	2.9E3	???	0.1	???
BZEMUCNO3	4.0E4	???	0.1	???
NPHENOOH	4.6E3	???	0.1	???
NCATECOOH	2.0E6	???	0.1	???
CO235C6CHO	1.0E6	???	0.1	???
C235C6CO3H	1.0E6	???	0.1	???
C716OOH	1.0E6	???	0.1	???
C721OOH	1.0E6	???	0.1	???
C722OOH	1.0E6	???	0.1	???
BENZAL	36.	???	0.1	???
PHCOOH	1.5E7	???	0.1	???
PTLQONE	41.	???	0.1	???
C6H5CO3H	2.4E4	???	0.1	???
C7CO4DB	3.7E3	???	0.1	???
PTLQCO	2.4E4	???	0.1	???
TOL1O	2.9E3	???	0.1	???
MCATEC1O	2.0E6	???	0.1	???
TOLUENE	1.5E-1	???	0.1	???
CRESOL	2.9E3	???	0.1	???
OXYL1OOH	2.9E3	???	0.1	???
C6H5CH2OOH	2.9E3	???	0.1	???
MCATECHOL	4.6E3	???	0.1	???
TLEPOXMUC	41.	???	0.1	???
MCATEC1OOH	4.6E3	???	0.1	???
TLEMUCCO2H	7.4E5	???	0.1	???
TLOBIPEROH	4.0E4	???	0.1	???
PTLQOOH	2.0E6	???	0.1	???
TLEMUCCO	3.1E5	???	0.1	???
TLEMUCCO3H	2.2E3	???	0.1	???
C6COOHCO3H	2.0E6	???	0.1	???
TLBIPEROOH	2.0E6	???	0.1	???

KPP name	pss	Reference	dryreac	Reference
CRESOOH	2.0E6	???	0.1	???
TLEMUCOOH	2.0E6	???	0.1	???
C7PAN3	1.0E6	???	0.1	???
PBZN	70.	???	0.1	???
NCRES1O	70.	???	0.1	???
DNCRES	2.3E3	???	0.1	???
TOL1OHNO2	7.0E1	???	0.1	???
C6H5CH2NO3	36.	???	0.1	???
MNCATECH	4.6E3	???	0.1	???
NCRES1OOH	70.	???	0.1	???
NPTLQOOH	2.4E4	???	0.1	???
TLEMUCPAN	2.8	???	0.1	???
C6CO2OHPAN	4.0E4	???	0.1	???
NDNCRESOOH	2.3E3	???	0.1	???
DNCRESOOH	2.3E3	???	0.1	???
MNNCATCOOH	2.3E3	???	0.1	???
TLBIPERNO3	70.	???	0.1	???
TLEMUCNO3	4.0E4	???	0.1	???
NCRESOOH	4.6E3	???	0.1	???
MNCATECOOH	2.0E6	???	0.1	???
C8BCCO	1.0E6	???	0.1	???
C8BCOOH	1.0E6	???	0.1	???
C721CHO	1.0E6	???	0.1	???
NORPINIC	4E13	???	0.1	???
C721CO3H	1.0E6	???	0.1	???
C8BC	1.0E6	???	0.1	???
C85OOH	1.0E6	???	0.1	???
C86OOH	1.0E6	???	0.1	???
C812OOH	1.0E6	???	0.1	???
C813OOH	1.0E6	???	0.1	???
C89OOH	1.0E6	???	0.1	???
C810OOH	1.0E6	???	0.1	???
STYRENE	3.7E-1	???	0.1	???
LXYL	1.7E-1	???	0.1	???
EBENZ	1.2E-1	???	0.1	???
STYRENOOH	70.	???	0.1	???
C8BCNO3	1.0E6	???	0.1	???
C721PAN	1.0E6	???	0.1	???
C89NO3	1.0E6	???	0.1	???
C810NO3	1.0E6	???	0.1	???
NSTYRENOOH	70.	???	0.1	???
NOPINDCO	1.0E6	???	0.1	???
C85CO3H	1.0E6	???	0.1	???
NOPINONE	1.0E6	???	0.1	???
NOPINOO	1.0E6	???	0.1	???
NORPINAL	1.0E6	???	0.1	???
NORPINENOL	1.0E6	???	0.1	???
C89CO2H	6.6E7	???	0.1	???
NOPINDOOH	1.0E6	???	0.1	???

KPP name	pss	Reference	dryreac	Reference
RO6R3P	1.0E6	???	0.1	???
C89CO3H	1.0E6	???	0.1	???
PINIC	4E13	???	0.1	???
C811CO3H	1.0E6	???	0.1	???
C96OOH	1.0E6	???	0.1	???
C97OOH	1.0E6	???	0.1	???
C98OOH	1.0E6	???	0.1	???
C89PAN	1.0E6	???	0.1	???
C9PAN2	1.0E6	???	0.1	???
C811PAN	1.0E6	???	0.1	???
C96NO3	1.0E6	???	0.1	???
LTMB	2.2E-1	???	0.1	???
C109CO	1.0E6	???	0.1	???
PINALOOH	1.0E6	???	0.1	???
APINENE	1.0E1	???	0.1	???
BPINENE	1.0E1	???	0.1	???
CARENE	1.0E1	???	0.1	???
SABINENE	1.0E1	???	0.1	???
CAMPHENE	1.0E1	???	0.1	???
PINAL	1.0E6	???	0.1	???
PINENOL	1.0E6	???	0.1	???
MENTHEN6ONE	1.0E6	???	0.1	???
PINONIC	7.4E5	???	0.1	???
C109OOH	1.0E6	???	0.1	???
PERPINONIC	7.4E5	???	0.1	???
C106OOH	1.0E6	???	0.1	???
OH2MENTHEN6ONE	1.0E6	???	0.1	???
BPINAOOH	1.0E6	???	0.1	???
RO6R3OOH	1.0E6	???	0.1	???
PINALNO3	1.0E6	???	0.1	???
C10PAN2	1.0E6	???	0.1	???
C106NO3	1.0E6	???	0.1	???
BPINANO3	1.0E6	???	0.1	???
RO6R1NO3	1.0E6	???	0.1	???
RO6R3NO3	1.0E6	???	0.1	???
ROO6R1NO3	1.0E6	???	0.1	???
LAPINABOOH	1.0E6	???	0.1	???
LAPINABNO3	1.0E6	???	0.1	???
LNAPINABOOH	1.0E6	???	0.1	???
LNBPINABOOH	1.0E6	???	0.1	???
LHAROM	1.2E-1	???	0.1	???
CHF3	-9.99999	???	-9.99999	???
CHF2CF3	-9.99999	???	-9.99999	???
CH3CF3	-9.99999	???	-9.99999	???
CH2F2	-9.99999	???	-9.99999	???
CH3CHF2	-9.99999	???	-9.99999	???
Cl2	7.E-2	???	0.1	???
HCl	1E14	???	1.0	???
HOCl	6.7E2	???	1.0	???

KPP name	pss	Reference	dryreac	Reference
ClNO3	1.E30	???	1.0	???
CH3Cl	9.4E-2	???	0.0	???
CHF2Cl	-9.99999	???	-9.99999	???
CH2FCF3	-9.99999	???	-9.99999	???
CF2ClCFCl2	-9.99999	???	-9.99999	???
CH2Cl2	-9.99999	???	-9.99999	???
CH3CFCl2	-9.99999	???	-9.99999	???
CF2ClCF2Cl	-9.99999	???	-9.99999	???
CHCl3	-9.99999	???	-9.99999	???
CF3CF2Cl	-9.99999	???	-9.99999	???
Br2	0.7	???	0.1	???
HBr	1.3E17	???	1.0	???
HOBr	9.1E1	???	1.0	???
BrNO3	1.0E30	???	1.0	???
BrCl	1.0	???	0.1	???
CH3Br	1.6E-1	???	0.0	???
CHCl2Br	4.0E-1	???	0.0	???
CHClBr2	8.7E-1	???	0.0	???
CH2ClBr	1.1	???	0.0	???
CH2Br2	1.1	???	0.0	???
CHBr3	1.7	???	0.0	???
I2	3.0	???	0.1	???
IO	0.0	???	0.0	???
OIO	0.0	???	0.0	???
I2O2	0.0	???	0.0	???
HI	1.E30	???	1.0	???
HOI	1.E30	???	1.0	???
HIO3	1.E30	???	1.0	???
INO2	4.5	???	0.1	???
INO3	1.E30	???	1.0	???
ICl	1.1E2	???	0.1	???
CH2ClI	2.4E1	???	0.1	???
IBr	0.0	???	0.0	???
SO2	2.45E5	???	0.0	???
H2SO4	1.3E15	???	1.0	???
CH3SO3H	1.E30	???	1.0	???
DMS	0.0	???	0.0	???
DMSO	5.E4	???	0.1	???
CH3SO2	-9.99999	???	-9.99999	???
CH3SO3	-9.99999	???	-9.99999	???
Hg	0.13	???	0.1	???
HgO	2.4E7	???	1.0	???
HgCl	2.4E7	???	1.0	???
HgCl2	2.4E7	???	1.0	???
HgBr	2.4E7	???	1.0	???
HgBr2	2.4E7	???	1.0	???
ClHgBr	2.4E7	???	1.0	???
BrHgOBr	2.4E7	???	1.0	???
ClHgOBr	2.4E7	???	1.0	???

KPP name	pss	Reference	dryreac	Reference
ClHgOBr	2.4E7	???	1.0	???
ISON	1.7E4	???	0.1	???
ISOOH	1.7E6	???	0.1	???
LTERP	4.9E-2	???	0.0	???
LALK4	7.7E-4	???	0.0	???
LALK5	2.5E-4	???	0.0	???
LARO1	1.4E-1	???	0.0	???
LARO2	1.4E-1	???	0.0	???
LOLE1	5.0E-3	???	0.0	???
LOLE2	5.0E-3	???	0.0	???
LfPOG02	1.0E5	???	0.0	???
LfPOG03	1.0E5	???	0.0	???
LfPOG04	1.0E5	???	0.0	???
LfPOG05	1.0E5	???	0.0	???
LbbPOG02	1.0E5	???	0.0	???
LbbPOG03	1.0E5	???	0.0	???
LbbPOG04	1.0E5	???	0.0	???
LfSOGsv01	1.0E5	???	0.0	???
LfSOGsv02	1.0E5	???	0.0	???
LbbSOGsv01	1.0E5	???	0.0	???
LbbSOGsv02	1.0E5	???	0.0	???
LfSOGiv01	1.0E5	???	0.0	???
LfSOGiv02	1.0E5	???	0.0	???
LfSOGiv03	1.0E5	???	0.0	???
LfSOGiv04	1.0E5	???	0.0	???
LbbSOGiv01	1.0E5	???	0.0	???
LbbSOGiv02	1.0E5	???	0.0	???
LbbSOGiv03	1.0E5	???	0.0	???
LbSOGv01	1.0E5	???	0.0	???
LbSOGv02	1.0E5	???	0.0	???
LbSOGv03	1.0E5	???	0.0	???
LbSOGv04	1.0E5	???	0.0	???
LbOSOGv01	1.0E5	???	0.0	???
LbOSOGv02	1.0E5	???	0.0	???
LbOSOGv03	1.0E5	???	0.0	???
LaSOGv01	1.0E5	???	0.0	???
LaSOGv02	1.0E5	???	0.0	???
LaSOGv03	1.0E5	???	0.0	???
LaSOGv04	1.0E5	???	0.0	???
LaOSOGv01	1.0E5	???	0.0	???
LaOSOGv02	1.0E5	???	0.0	???
LaOSOGv03	1.0E5	???	0.0	???

Notes

Henry's law constants

- BIG_DP is a large number that represents infinite solubility in the code.
- The temperature dependence of the Henry constants is:

$$K_{\mathrm{H}} = K_{\mathrm{H}}^{\ominus} \times \exp\left(\frac{-\Delta_{\mathrm{soln}}H}{R}\left(\frac{1}{T} - \frac{1}{T^{\ominus}}\right)\right)$$

  where $\Delta_{\mathrm{soln}}H$ = molar enthalpy of dissolution [J/mol] and $R = 8.314$ J/(mol K).
- **NO2:** The temperature dependence is from Chameides (1984).
- **HNO3:** Calculated using the acidity constant from Davis and de Bruin (1964).
- **CH3O2:** This value was estimated by Jacob (1986).
- **C2H5O2:** Assumed to be the same as for CH3O2.
- **HBr:** Calculated using the acidity constant from Lax (1969).
- **HOBr:** Twice the value of HOCl, according to Blatchley et al. (1992). Same temperature dependence as for HOCl assumed.
- **IO:** Assumed to be the same as for HOI.
- **HOI:** Lower limit.
- **ICl:** Calculated using thermodynamic data from Wagman et al. (1982).
- **IBr:** Calculated using thermodynamic data from Wagman et al. (1982).
- **H2SO4:** To account for the very high Henry's law coefficient of H2SO4, a very high value was chosen arbitrarily.
- **DMSO:** Lower limit cited from another reference.
- **HgBr2:** Assumed to be the same as for HgCl2.
- **ClHgBr:** Assumed to be the same as for HgCl2.
- **BrHgOBr:** Assumed to be the same as for HgCl2.
- **ClHgOBr:** Assumed to be the same as for HgCl2.

Accommodation coefficients

- If the accommodation coefficient is not known, a value of $\alpha = 0.1$ is assumed.
- The temperature dependence of the accommodation coefficients is given by (Jayne et al., 1991):

$$\begin{aligned}\frac{\alpha}{1-\alpha} &= \exp\left(\frac{-\Delta_{\mathrm{obs}}G}{RT}\right) \\ &= \exp\left(\frac{-\Delta_{\mathrm{obs}}H}{RT} + \frac{\Delta_{\mathrm{obs}}S}{R}\right)\end{aligned}$$

where $\Delta_{\mathrm{obs}}G$ is the Gibbs free energy barrier of the transition state toward solution (Jayne et al., 1991), and $\Delta_{\mathrm{obs}}H$ and $\Delta_{\mathrm{obs}}S$ are the corresponding enthalpy and entropy, respectively. The equation can be rearranged to:

$$\ln\left(\frac{\alpha}{1-\alpha}\right) = \frac{-\Delta_{\mathrm{obs}}H}{R} \times \frac{1}{T} + \frac{-\Delta_{\mathrm{obs}}S}{R}$$

and further:

$$\mathrm{d}\ln\left(\frac{\alpha}{1-\alpha}\right) \Big/ \mathrm{d}\left(\frac{1}{T}\right) = \frac{-\Delta_{\mathrm{obs}}H}{R}$$

- **O2:** Estimate.
- **O3:** Value measured at 292 K.
- **OH:** Value measured at 293 K.
- **HO2:** Value for aqueous salts at 293 K.
- **NH3:** Value measured at 295 K.
- **NO:** Value measured between 193 and 243 K.
- **NO2:** Value measured at 298 K.
- **NO3:** Value is a lower limit, measured at 273 K.
- **N2O5:** Value for sulfuric acid, measured between 195 and 300 K.
- **HONO:** Value measured between 247 and 297 K.
- **HNO3:** Value measured at room temperature. Abbatt and Waschewsky (1998) say $\gamma > 0.2$. Here $\alpha = 0.5$ is used.
- **HNO4:** Value measured at 200 K for water ice.
- **CH3O2:** Estimate.
- **CO2:** Estimate.
- **HCHO:** Value measured between 260 and 270 K.
- **PAN:** Estimate.
- **C2H5O2:** Estimate.
- **CH3CHO:** Using the same estimate as in the CAPRAM 2.4 model (Ervens et al., 2003).
- **HCl:** Temperature dependence derived from published data at 2 different temperatures
- **HOCl:** Assumed to be the same as α(HOBr).
- **ClNO3:** Value measured at 274.5 K.
- **HBr:** Temperature dependence derived from published data at 2 different temperatures
- **HOBr:** Value measured at room temperature. Abbatt and Waschewsky (1998) say $\gamma > 0.2$. Here $\alpha = 0.5$ is used.

- **BrNO3:** Value measured at 273 K.
- **BrCl:** Assumed to be the same as α(Cl2).
- **I2:** Estimate.
- **IO:** Estimate.
- **OIO:** Estimate.
- **I2O2:** Estimate.
- **HI:** Temperature dependence derived from published data at 2 different temperatures
- **HOI:** Assumed to be the same as α(HOBr). See also Mössinger and Cox (2001) and Holmes et al. (2001).
- **HIO3:** Estimate.
- **INO2:** Estimate.
- **INO3:** Estimate.
- **ICl:** Estimate.
- **IBr:** Assumed to be the same as α(ICl).
- **H2SO4:** Value measured at 303 K.
- **Hg:** Estimate.
- **HgO:** Estimate.
- **HgCl2:** Estimate.
- **HgBr2:** Estimate.
- **ClHgBr:** Estimate.
- **BrHgOBr:** Estimate.
- **ClHgOBr:** Estimate.

Acid/base constants

- **pinic acid:** The same R_K_acid and R_K_acid2 values as for succinic acid from Haynes (2014) are used.
- **norpinic acid:** The same R_K_acid and R_K_acid2 values as for succinic acid from Haynes (2014) are used.
- **H2SO4:** From Wikipedia.

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