

COMP

Compounds: select from >500 chemical compounds, 2 x click = view properties	<div> <div>RAD</div> <div>CHOM</div> <div> <div>7:</div> <div>6:</div> <div>5:</div> <div>4:</div> <div>3:</div> <div>2:</div> <div>1:</div> </div> <div> <div>COMPOUNDS 2xCLICK=VIEW</div> <div> <div>(CH2)2(OH)2</div> <div>(CH3)2CHOH</div> <div>(COOH)2</div> <div>(NH4)2CO3</div> <div>(NH4)2HPO4</div> <div>(NH4)2SO4</div> <div>Ag2O</div> <div>Ag2O2</div> </div> </div> <div> <div>CANCEL</div> <div>OK</div> </div> </div>	<div> <div>RAD</div> <div>CHOM</div> <div> <div>7:</div> <div>6:</div> <div>5:</div> <div>4:</div> <div>3:</div> <div>2:</div> <div>1:</div> </div> <div> <div>COMPOUNDS 2xCLICK=VIEW</div> <div> <div>AgClO2</div> <div>AgClO3</div> <div>AgI</div> <div>AgIO3</div> <div>AgNO2</div> <div>AgNO3</div> <div>AgO2</div> <div>Al(OH)3O2</div> </div> </div> <div> <div>CANCEL</div> <div>OK</div> </div> </div>
Compounds: select from chemical compounds	<div> <div>RAD</div> <div>CHOM</div> <div> <div>7:</div> <div>6:</div> <div>5:</div> <div>4:</div> <div>3:</div> <div>2:</div> <div>1:</div> </div> <div> <div>COMPOUNDS 2xCLICK=VIEW</div> <div> <div>C10H22</div> <div>C10H8</div> <div>C12H10</div> <div>C12H22O11</div> <div>C14H10</div> <div>C14H12</div> <div>C2Cl4</div> <div>C2H2</div> </div> </div> <div> <div>CANCEL</div> <div>OK</div> </div> </div>	<div> <div>RAD</div> <div>CHOM</div> <div> <div>7:</div> <div>6:</div> <div>5:</div> <div>4:</div> <div>3:</div> <div>2:</div> <div>1:</div> </div> <div> <div>COMPOUNDS 2xCLICK=VIEW</div> <div> <div>ZnSO4</div> <div>ZnSe</div> <div>ZnTe</div> <div>ZrC</div> <div>ZrCl4</div> <div>ZrO</div> <div>ZrO2</div> <div>ZrSiO4</div> </div> </div> <div> <div>CANCEL</div> <div>OK</div> </div> </div>
Compounds: view compound properties (1s)	<div> <div>FORMULA: "(CH2)2(OH)2"</div> <div>NAME: "Ethylene glycol"</div> <div>STATE: "liq"</div> <div>SPEC.GRAV.: "1.11_g/cm^3"</div> <div>SOLUBILITY: "1000_g/l"</div> <div>MELT.PT.: "-13_°C"</div> <div>BOIL.PT.: "198_°C"</div> <div>ENTHALPY: "-460_kJ/mol"</div> <div>FREE ENTHALPY: "?"</div> <div>ENTROPY: "167_J/(K*mol)"</div> </div>	<div> <div>FORMULA: "Ag(OH)2"</div> <div>NAME: "Magnesium hydroxide"</div> <div>STATE: "hex"</div> <div>SPEC.GRAV.: "2.36_g/cm^3"</div> <div>SOLUBILITY: "0.02_g/l"</div> <div>MELT.PT.: "350_°C"</div> <div>BOIL.PT.: "?"</div> <div>ENTHALPY: "-925.15_kJ/mol"</div> <div>FREE ENTHALPY: "-234.1_kJ/mol"</div> <div>ENTROPY: "63.2_J/(K*mol)"</div> </div>
Coview: view "Mg(OH)2" (2s)	<div> <div>GRAPH</div> <div>CANCEL</div> <div>OK</div> </div>	<div> <div>GRAPH</div> <div>CANCEL</div> <div>OK</div> </div>
Coview: view compound "Lactose" (1s)	<div> <div>FORMULA: "C12H22O11"</div> <div>NAME: "Lactose"</div> <div>STATE: "sol"</div> <div>SPEC.GRAV.: "1.52_g/cm^3"</div> <div>SOLUBILITY: "200_g/l"</div> <div>MELT.PT.: "223_°C"</div> <div>BOIL.PT.: "?"</div> <div>ENTHALPY: "-2233_kJ/mol"</div> <div>FREE ENTHALPY: "?"</div> <div>ENTROPY: "386_J/(K*mol)"</div> </div>	<div> <div>FORMULA: "PCl3"</div> <div>NAME: "Phosphorus III chloride"</div> <div>STATE: "liq"</div> <div>SPEC.GRAV.: "1.57_g/cm^3"</div> <div>SOLUBILITY: "?"</div> <div>MELT.PT.: "-93.6_°C"</div> <div>BOIL.PT.: "76.1_°C"</div> <div>ENTHALPY: "-320_kJ/mol"</div> <div>FREE ENTHALPY: "-272_kJ/mol"</div> <div>ENTROPY: "211.7_J/(K*mol)"</div> </div>
Coview: view compound (1s)	<div> <div>GRAPH</div> <div>CANCEL</div> <div>OK</div> </div>	<div> <div>GRAPH</div> <div>CANCEL</div> <div>OK</div> </div>
Coview: view compound (1s)	<div> <div>FORMULA: "S2Cl2"</div> <div>NAME: "Sulfur chloride"</div> <div>STATE: "liq"</div> <div>SPEC.GRAV.: "1.7_g/cm^3"</div> <div>SOLUBILITY: "34cm"</div> <div>MELT.PT.: "-80_°C"</div> <div>BOIL.PT.: "138_°C"</div> <div>ENTHALPY: "-58_kJ/mol"</div> <div>FREE ENTHALPY: "?"</div> <div>ENTROPY: "224_J/(K*mol)"</div> </div>	<div> <div>FORMULA: "Ta2O5"</div> <div>NAME: "Tantalum oxide"</div> <div>STATE: "rho"</div> <div>SPEC.GRAV.: "8.2_g/cm^3"</div> <div>SOLUBILITY: "?"</div> <div>MELT.PT.: "1820_°C"</div> <div>BOIL.PT.: "?"</div> <div>ENTHALPY: "-2046_kJ/mol"</div> <div>FREE ENTHALPY: "-1911_kJ/mol"</div> <div>ENTROPY: "?"</div> </div>
Coview: view compound (1s)	<div> <div>GRAPH</div> <div>CANCEL</div> <div>OK</div> </div>	<div> <div>GRAPH</div> <div>CANCEL</div> <div>OK</div> </div>
Codata: compound data (1s)	<div> <div>7:</div> <div>6:</div> <div>5:</div> <div>4:</div> <div>3:</div> <div>2:</div> <div>1:</div> </div> <div> <div>"TiC"</div> <div>{ FORMULA: "TiC" NAME: "Titanium"</div> </div>	<div> <div>7:</div> <div>6:</div> <div>5:</div> <div>4:</div> <div>3:</div> <div>2:</div> <div>1:</div> </div> <div> <div>"C6H12O6"</div> <div>{ FORMULA: "C6H12O6" NAME: "Glucose"</div> </div>
Codata: compound data (1s)	<div> <div>Comp0</div> <div>Codat0</div> <div>Coview0</div> <div>Coprop0</div> <div>Cosum0</div> <div>Conas0</div> </div>	<div> <div>Comp0</div> <div>Codat0</div> <div>Coview0</div> <div>Coprop0</div> <div>Cosum0</div> <div>Conas0</div> </div>
Coprop: compound properties enthalpy, melting point (0.5s)	<div> <div>7:</div> <div>6:</div> <div>5:</div> <div>4:</div> <div>3:</div> <div>2:</div> <div>1:</div> </div> <div> <div>"Al2(SO4)3"</div> <div>"H0"</div> <div>H0(Al2(SO4)3): [-3443.1_kJ/mol]</div> <div>"AgCl"</div> <div>MP</div> <div>MP(AgCl): (455_°C)</div> </div>	<div> <div>7:</div> <div>6:</div> <div>5:</div> <div>4:</div> <div>3:</div> <div>2:</div> <div>1:</div> </div> <div> <div>(Ag2O AgBr AgCl AgI)</div> <div>"H0"</div> <div>{ H0(Ag2O): [-31.1_kJ/mol] H0(AgBr):</div> <div>"CaSO4"</div> <div>CHO GO SO3</div> <div>{ H0(CaSO4): [-1435_kJ/mol] GO(CO2):</div> </div>
Coprop: compound properties (1s)	<div> <div>Comp0</div> <div>Codat0</div> <div>Coview0</div> <div>Coprop0</div> <div>Cosum0</div> <div>Conas0</div> </div>	<div> <div>Comp0</div> <div>Codat0</div> <div>Coview0</div> <div>Coprop0</div> <div>Cosum0</div> <div>Conas0</div> </div>
Cosumf: compound sum formula (1.5s)	<div> <div>7:</div> <div>6:</div> <div>5:</div> <div>4:</div> <div>3:</div> <div>2:</div> <div>1:</div> </div> <div> <div>"(CH2)2(OH)2"</div> <div>"C2H6O2"</div> <div>"(NH4)2HPO4"</div> <div>"H9N2O4P1"</div> </div>	<div> <div>7:</div> <div>6:</div> <div>5:</div> <div>4:</div> <div>3:</div> <div>2:</div> <div>1:</div> </div> <div> <div>"(CH2)2(OH)2"</div> <div>"C2H6O2"</div> <div>ZC: 39 H: 1 O: 523</div> <div>"Ag2O3"</div> <div>(Ag: 82 O: 183</div> </div>
Comass: compound to (2s) element masses in percent	<div> <div>Comp0</div> <div>Codat0</div> <div>Coview0</div> <div>Coprop0</div> <div>Cosum0</div> <div>Conas0</div> </div>	<div> <div>Comp0</div> <div>Codat0</div> <div>Coview0</div> <div>Coprop0</div> <div>Cosum0</div> <div>Conas0</div> </div>

<p>→ΔG0, ΔH0, ΔS0: (free) enthalpy, entropy change of reaction (3s)</p> <p>→ΔGT: free enthalpy at temperature (5s)</p>	<pre> 5: 4: ΔH0: [-890.2_ $\frac{\text{kJ}}{\text{mol}}$] 3: ΔG0: [-818.1_ $\frac{\text{kJ}}{\text{mol}}$] 2: ΔS0: [-.2429_ $\frac{\text{kJ}}{\text{mol}\cdot\text{K}}$] 1: "CH4+2O2→CO2+2H2O" CEQex →H0 →G0 →S0 →GT →SOL </pre>	<pre> 5: 4: 3: "NH4Cl→NH3+HCl" 2: ΔGT(500_K): [-18.206305_ $\frac{\text{kJ}}{\text{mol}}$] 1: MOLWT CEQex →H0 →G0 →S0 →GT </pre>
<p>→ΔG0, ΔH0, ΔS0: (free) enthalpy, entropy change of reaction (3s)</p> <p>→ΔGT: free enthalpy at temperature (5s)</p>	<pre> 5: 4: ΔH0: [-1647. _ $\frac{\text{kJ}}{\text{mol}}$] 3: ΔG0: [-1483. _ $\frac{\text{kJ}}{\text{mol}}$] 2: ΔS0: [-.5502_ $\frac{\text{kJ}}{\text{mol}\cdot\text{K}}$] 1: "4Fe+3O2→2Fe2O3" MOLWT CEQex →H0 →G0 →S0 →GT </pre>	<pre> 5: 4: 3: "4Fe+3O2→2Fe2O3" 2: ΔGT(400_K): [-1426.9_ $\frac{\text{kJ}}{\text{mol}}$] 1: MOLWT CEQex →H0 →G0 →S0 →GT </pre>
<p>CEQex: choose equation</p> <p>→S0ele: entropy of element (0.1s)</p>	<pre> 5: 4: 3: 2: 1: </pre> <div> <p>choose equation</p> <p>CH4+2O2→CO2+2H2O</p> <p>4NH3+5O2→4NO+6H2O</p> <p>C6H12O6+6O2→6CO2+6H2O</p> <p>C2H5OH+3O2→2CO2+3H2O</p> <p>4Fe+3O2→2Fe2O3</p> </div> <p>CANCEL OK</p>	<pre> 5: 4: 3: S0(C): [.0057_ $\frac{\text{kJ}}{\text{mol}\cdot\text{K}}$] 2: S0(Fe): [.0273_ $\frac{\text{kJ}}{\text{mol}\cdot\text{K}}$] 1: →S0el Coxel DROPS Coadd Codel Cedit </pre>
<p>Coedit: choose compound to edit</p> <p>edit list with compound data</p>	<pre> 5: 4: 3: 2: 1: </pre> <div> <p>edit compound</p> <p>AgNO3</p> <p>AgNO2</p> <p>Al(OH)3</p> <p>Al2(SO4)3</p> <p>Al2O3</p> <p>AlCl3</p> <p>AlF3</p> <p>AlI3</p> </div> <p>CANCEL OK</p>	<pre> 5: 4: 3: 2: 1: </pre> <p>FORMULA: "Al2(SO4)3" :NAME: "Aluminum sulfate" :STATE: "rho" :SPEC.GRAV.: 2.71 :SOLUBILITY: 313 :MELT.PT.: 760 :BOIL.PT.: 121 :ENTHALPY: -3443.1</p> <p>→SKIP SKIP+ →DEL DEL+ DEL L INS+</p>
<p>Coadd: add new compound</p> <p>Codel: delete compound from list</p>	<p>key in compound</p>	<pre> 5: 4: 3: 2: 1: </pre> <div> <p>delete compound with OR</p> <p>CH3CHOH</p> <p>COOH2</p> <p>CH4CO2</p> <p>CH4ZHO4</p> <p>CH4ZSO4</p> <p>Ag2O</p> <p>Ag2O2</p> </div> <p>CANCEL OK</p>
<p>HelpCOMP: help</p>	<p>COMP: CHEMICAL COMPOUNDS</p> <p>C="H2O","Mg(OH)2" COMPOUND</p> <p>no nested bracket allowed</p> <p>Compound _ + _ CHOOSEBOX</p> <p>WITH COMPOUNDS</p> <p>Codata C,"name" + C, {} DATA</p> <p>Covish C,"name" + C, PICTURE</p> <p>Coprop C,C1..3 P,Cp1..3 + P(C),ZPIC1) ..3</p> <p>CONPOUND PROPERTIES</p> <p>Cosumf C ↔ E1n1E2n2 SUNFORMULA</p> <p>GRAPH</p>	<p>Compas C ↔ CH1..N03</p> <p>COMP. ↔ MASSES IN Z</p> <p>MOLWT "H2O","Mg(OH)2" + M</p> <p>MOLWEIGHT, USES MLIST</p> <p>CEQex ACTUAL CHEM. EQ.</p> <p>→H0 CEQ + ΔH0 CEQ ENTHALPY</p> <p>ΔH0<0 EXOTHERM,</p> <p>ΔH0>0 ENDOTHERM REACTION</p> <p>ΔH0=ΔH0+pxv</p> <p>→G0 CEQ + ΔG0 CEQ</p> <p>FREE ENTHALPY</p> <p>ΔG=ΔG0+R×T×Ln(K)</p> <p>GRAPH</p>
<p>HelpCOMP: help</p>	<p>ΔG>0 FORCED REACTION</p> <p>ΔG=0 EQUILIBRIUM</p> <p>CEQ + ΔS0 CEQ ENTROPY</p> <p>CEQ T_K + ΔGT CEQ</p> <p>AT TEMPERATURE T</p> <p>ΔGT=ΔH0-T×ΔS0</p> <p>'EL' + S0(EL)</p> <p>ENTROPY OF ELEMENT</p> <p>H2O ↔ CH 2 0 13</p> <p>COMPOUND ↔ EL LIST</p> <p>C3 + DROPS ? = UNKNOWN</p> <p>GRAPH</p>	<p>AND - = NOT EXISTENT</p> <p>→ + C3, EDIT COMP PROP.</p> <p>PRESS CONT AFTER EDIT</p> <p>Coadd - + -, ADD COMPOUND</p> <p>Codel - + -, DELETE COMPOUND</p> <p>FROM CHOOSEBOX</p> <p>C3 + C3' EDIT M/SOLIST</p> <p>PRESS CONT AFTER EDIT</p> <p>+ C3 LIST WITH</p> <p>MLIST ELEMENT MASSES</p> <p>SOLIST LIST WITH ENTROPY</p> <p>OF ELEMENTS</p> <p>GRAPH</p>
<p>HelpCOMP: help</p>	<p>CPLIST + C3 LIST WITH</p> <p>COMPOUND PROPERTIES</p> <p>COMPOUND PROPERTIES:</p> <p>PROPERTY SHORTCUT UNITS</p> <p>FORMULA FO</p> <p>NAME NA</p> <p>STATE ST</p> <p>SPEC.GRAV. SG g/cm³</p> <p>SOLUBILITY SO g/l in H2O</p> <p>MELT.PT. MP °C</p> <p>BOIL.PT. BP °C</p> <p>GRAPH</p>	<p>PROPERTY SHORTCUT UNITS</p> <p>FORMULA FO</p> <p>NAME NA</p> <p>STATE ST</p> <p>SPEC.GRAV. SG g/cm³</p> <p>SOLUBILITY SO g/l in H2O</p> <p>MELT.PT. MP °C</p> <p>BOIL.PT. BP °C</p> <p>ENTHALPY HO kJ/mol</p> <p>FREE ENTHALPY GO kJ/mol</p> <p>ENTROPY SO J/(K mol)</p> <p>GRAPH</p>