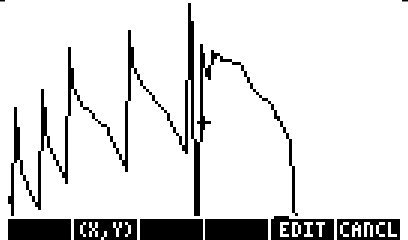
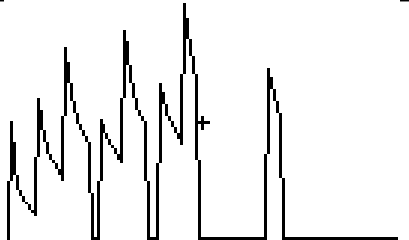
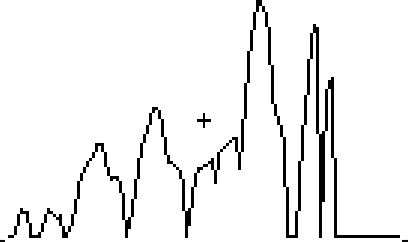
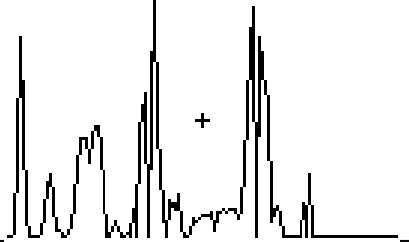
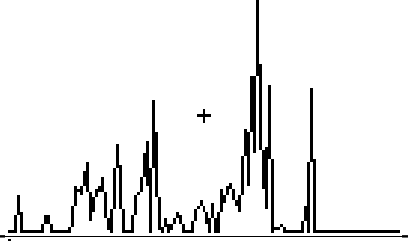
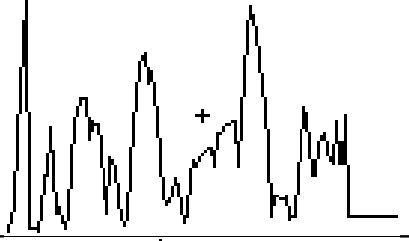

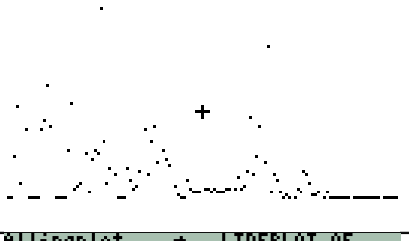
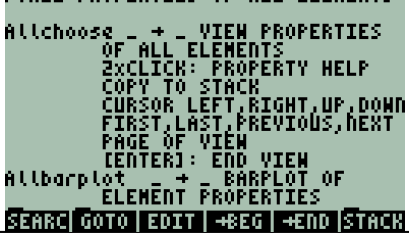









PTEALL

Allchoose: view properties of all elements	<div>VIEW PROP. 2xCLICK=HELP</div> <div>GRPERBL ATHEIGHT ELCONFIG ELSHLL GRDSTATE OXISTATE CRYSTSTRUCT PHASECOL</div> <div>CANCEL OK</div>	<div>VIEW PROP. 2xCLICK=HELP</div> <div>ELMAGN ELORIGIN ISOSTABALL CRUSTAB UNIVAB ELECTNEG ELAFFIN ELCONDUCT</div> <div>CANCEL OK</div>
next page	<div>VIEW PROP. 2xCLICK=HELP</div> <div>MAGNSUSC REFRINDEX IONENRGY MOLARVOL ATOMRAD COVARAD WAHLRAD IONICRAD</div> <div>CANCEL OK</div>	<div>VIEW PROP. 2xCLICK=HELP</div> <div>DENSITY VELSOUND BULKMOD SHEARMOD YOUNGMOD POISSRAT MOHSHARD BRINHARD</div> <div>CANCEL OK</div>
next page	<div>VIEW PROP. 2xCLICK=HELP</div> <div>VICKHARD MELTPOIN BOILPOIN HEATFUS HEATVAP HEATATOM SPECHEAT THERMCON</div> <div>CANCEL OK</div>	<div>VIEW PROP. 2xCLICK=HELP</div> <div>HEATATOM SPECHEAT THERMCON THERMEXP CRITPRESS CRITTEMP SUPCONDTEMP CURJETEMP</div> <div>CANCEL OK</div>
2 x click = help group, period, block	GP GROUP, PERIOD, BLOCK GROUP 1-18, PERIOD 1-7, BLOCK s,p,d,f	EN ELECTR.NEG. electronegativity of Pauling, ability of atom to attract electrons
electronegativity	GRAPH	GRAPH
magnetic susceptibility	MS MAGN.SUSC. volume magnetic susceptibility, degree of magnetisation in external field % $B=\mu \times H$, $\mu=\mu_0 \times (1+\chi)$ B=magnetic induction, H=Magnetic field, $\chi_{mass}=\chi/\rho$ mass susceptibility, $\chi_{mol}=\chi \times \text{molar}$ susceptibility	SM SHEAR MOD. 1-GPa shear modulus, shear stress/strain G, $G=(F/A)/(\Delta x/L)$, F=Force, A=cross Δx =displacement, L=initial length
shear modulus	GRAPH	GRAPH
covalent radius	CO COV.RADIUS 1-pm covalent radius, distance between nuclei of an equal pair of atoms	BH BRIN.HARD. 1-MPa Brinell hardness, penetration of sphere in material, F=Force, D=indenter, d=indentation radius $BH=2F/(\pi D(D-d)\sqrt{D+d^2})$
Brinell hardness	GRAPH	GRAPH
group, period, block	2 EL GRPERBL 1 H 1,1,s 2 He 18,1,s 3 Li 1,2,s 4 Be 2,2,s 5 B 13,2,p 6 C 14,2,p 7 N 15,2,p 8 O 16,2,p 9 F 17,2,p 10 Ne 18,2,p 11 Na 1,3,s 12 Mg 2,3,s	104 Rf 4,7,d 105 Db 5,7,d 106 Sg 6,7,d 107 Bh 7,7,d 108 Hs 8,7,d 109 Mt 9,7,d 110 Ds 10,7,d 111 Rg 11,7,d 112 Ch 12,7,d 113 Nh 13,7,p 114 Fl 14,7,p 115 Mc 15,7,p 116 Lv 16,7,p
next page		
atomic weight	2 EL ATHEIGHT 1 H 1.00794 2 He 4.002602 3 Li 6.941 4 Be 9.012182 5 B 10.811 6 C 12.0107 7 N 14.0067 8 O 15.9994 9 F 18.9984032 10 Ne 20.1797 11 Na 22.98977 12 Mg 24.305	104 Rf Rn 5f14 6d2 7s2 105 Db Rn 5f14 6d3 7s2 106 Sg Rn 5f14 6d4 7s2 107 Bh Rn 5f14 6d5 7s2 108 Hs Rn 5f14 6d6 7s2 109 Mt Rn 5f14 6d7 7s2 110 Ds Rn 5f14 6d8 7s2 111 Rg Rn 5f14 6d9 7s2 112 Ch Rn 5f14 6d10 7s2 113 Nh Rn 5f14 6d10 7s2 7p1 114 Fl Rn 5f14 6d10 7s2 7p2 115 Mc Rn 5f14 6d10 7s2 7p3 116 Lv Rn 5f14 6d10 7s2 7p4
electron configuration		

electron shells	65 Tb 2, 8, 18, 27, 8 66 Dy 2, 8, 18, 28, 8 67 Ho 2, 8, 18, 29, 8 68 Er 2, 8, 18, 30, 8 69 Tm 2, 8, 18, 31, 8 70 Yb 2, 8, 18, 32, 8 71 Lu 2, 8, 18, 32, 9 72 Hf 2, 8, 18, 32, 10 73 Ta 2, 8, 18, 32, 11 74 W 2, 8, 18, 32, 12 75 Re 2, 8, 18, 32, 13 76 Os 2, 8, 18, 32, 14 77 Ir 2, 8, 18, 32, 15	26 Fe 54, 56-58 27 Co 59 28 Ni 58, 60-62, 64 29 Cu 63, 65 30 Zn 64, 66-68, 70 31 Ga 69, 71 32 Ge 70, 72-74 33 As 75 34 Se 74, 76-78, 80 35 Br 79, 81 36 Kr 78, 80, 82-84, 86 37 Rb 85 38 Sr 84, 86-88
stable isotopes		
oxidation states	52 Te +4, 6, -2 53 I +1, 5, 7, -1 54 Xe 0 55 Cs +1 56 Ba +2 57 La +3 58 Ce +3, 4 59 Pr +3, 4 60 Nd +3 61 Pm +3 62 Sm +2, 3 63 Eu +2, 3 64 Gd +3	13 Al 3 14 Si 4 15 P 3, 5 16 S 2, 4, 6 17 Cl 3, 5, 7 18 Ar 0 19 K 1 20 Ca 2 21 Sc 3 22 Ti 2, 3, 4 23 V 2, 3, 4, 5 24 Cr 2, 3, 4, 6 25 Mn 2, 3, 4, 6, 7
ionic radii (pm)		
electronegativity (Pauling)	13 Al 1.51 14 Si 1.9 15 P 2.19 16 S 2.58 17 Cl 3.16 18 Ar - 19 K 0.82 20 Ca 1. 21 Sc 1.36 22 Ti 1.54 23 V 1.63 24 Cr 1.66 25 Mn 1.55	2 Fe 1.83 3 Li 0.98 4 Be 1.57 5 B 2.04 6 C 2.55 7 N 3.04 8 O 3.44 9 F 3.98 10 Ne - 11 Na 0.93 12 Mg 1.31
ionisation energy (KJ/mol)		
density (kg/m^3)	78 Pt 21090. 79 Au 19300. 80 Hg 13534. 81 Tl 11850. 82 Pb 11340. 83 Bi 9780. 84 Po 9196. 85 At - 86 Rn 9.73 87 Fr - 88 Ra 5000. 89 Ac 10070. 90 Th 11724.	2 Fe 7860. 3 Li 520. 4 Be 1825. 5 B 2075. 6 C 2260. 7 N 1000. 8 O 1430. 9 F 1681. 10 Ne 2081. 11 Na 979. 12 Mg 1740.
melting point (°C)		
Allbarplot: choose barplot of property for all elements	9: CHOOSE PLOT PROPERTY 8: CRISTAL 7: ELECTNEG 6: ELAFFIN 5: ELCOND 4: MAGNSUSC 3: IONENRGY 2: MOLARVOL 1: ATOMRAD	9: CHOOSE PLOT PROPERTY 8: COVARAD 7: MAALSRAD 6: IONICRAD 5: DENSITY 4: BULKMOD 3: SHEARMOD 2: YOUNGMOD 1: POLSRAT
another page		
another page	9: CHOOSE PLOT PROPERTY 8: MOHSRAD 7: BRINRAD 6: VICKRAD 5: MELTPOIN 4: BOILPOIN 3: HEATFUS 2: HEATVAP 1: HEATATOM	9: CHOOSE PLOT PROPERTY 8: MELTPOIN 7: BOILPOIN 6: HEATFUS 5: HEATVAP 4: HEATATOM 3: SPECHEAT 2: THERMCON 1: THERMEXP
Help		
barplot of electronegativity		
velocity of sound		
electric conductivity		
first ionisation energy		

lineplot of atomic radii		
ionic radii		
lineplot of density		
bulk modulus		
lineplot Brinell hardness		
melting points		
scatterplot specific heat		
thermal conductivity		
PTALL help	PTALL PROPERTIES OF ALL ELEMENTS Allchoose _ + _ VIEW PROPERTIES OF ALL ELEMENTS 2xCLICK: PROPERTY HELP COPY TO STACK CURSOR LEFT,RIGHT,UP,DOWN FIRST, LAST, PREVIOUS, NEXT PAGE OF VIEW ENTER: EDD VIEW Allbarplot _ + _ BARPLOT OF ELEMENT PROPERTIES SEARCH GOTO EDIT +BEG +END STACK	Allineplot _ + _ LINEPLOT OF ELEMENT PROPERTIES Allscatplot _ + _ SCATTERPLOT OF ELEMENT PROPERTIES EditLPTALL _ + CALLS LPTALL FROM PORT 2, YOU CAN EDIT SINGLE PROPERTIES FOR ALL ELEMENTS. PRESS (CONT) AFTER EDIT, THEN THE NEW LIST IS STORED IN PORT 2. LPTALL _ + <3> LIST WITH ELEMENT PROPERTIES, STORE LIST SEARCH GOTO EDIT +BEG +END STACK