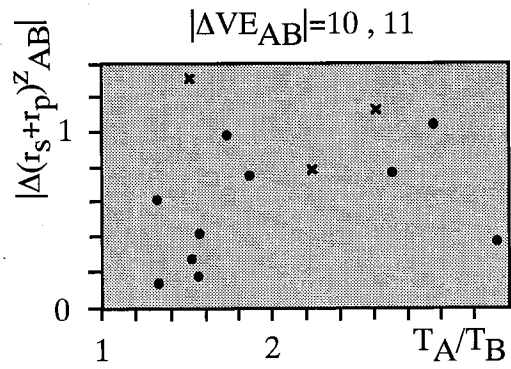
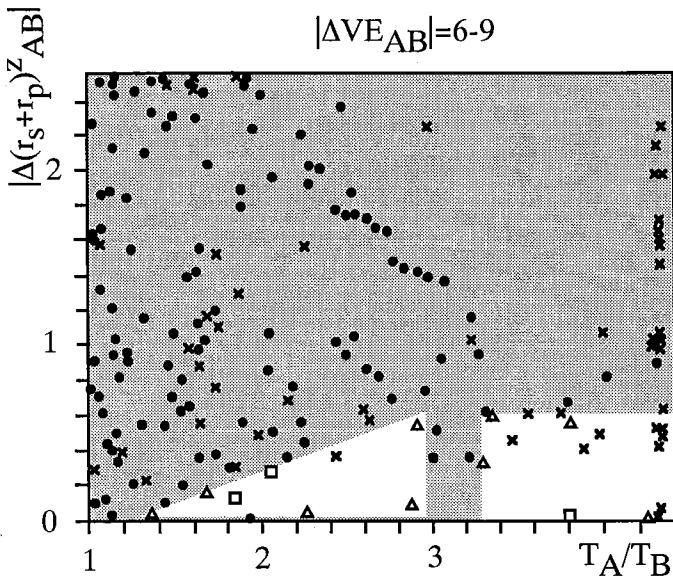
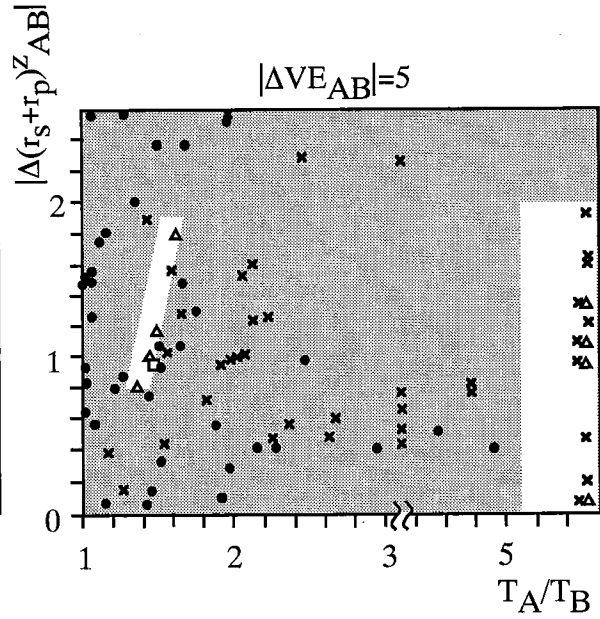
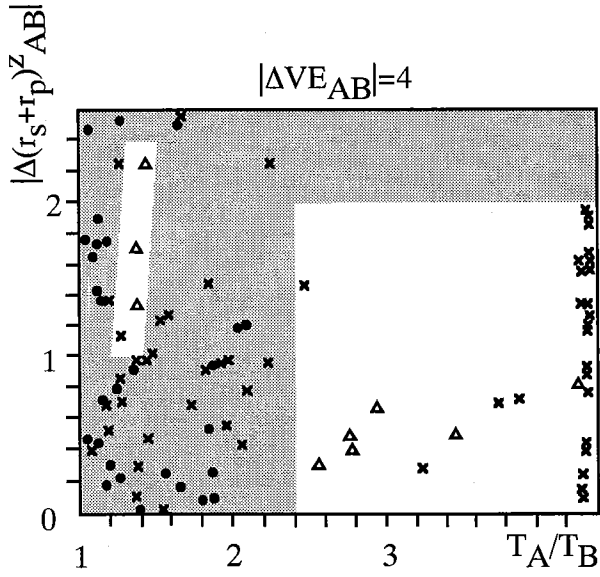
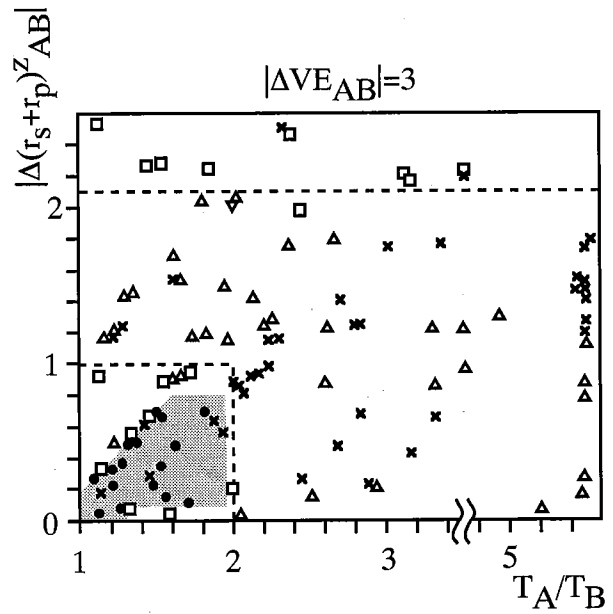
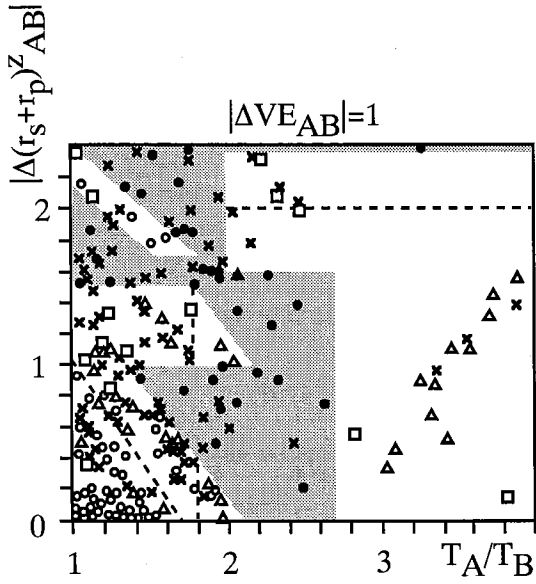
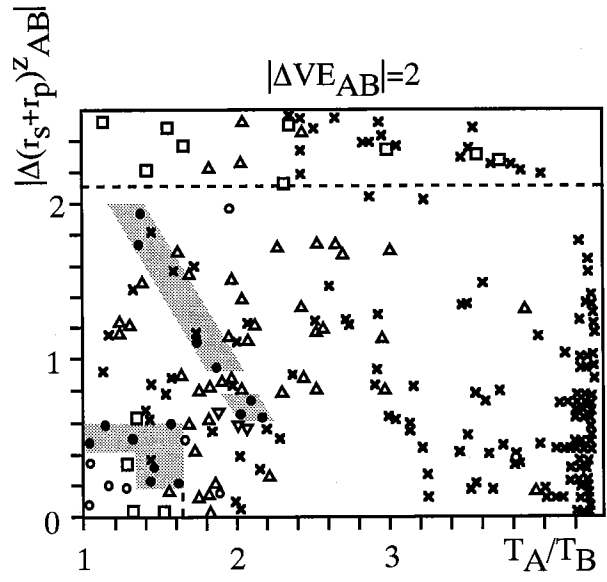
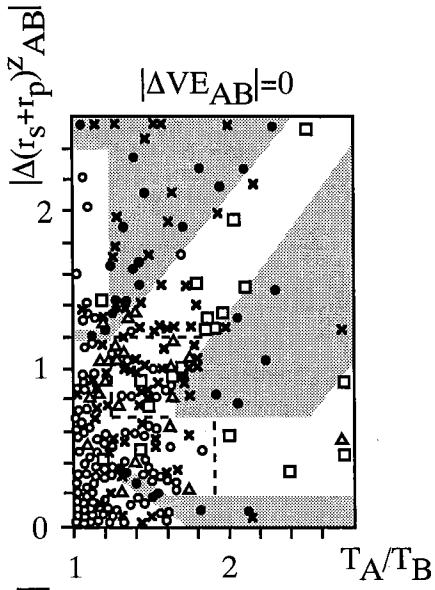


10.5

H 1 1.25 14 b																
Li 1 1.61 454 h,c,b	Be 2 1.08 1556 u, h											B 3 0.795 2300 u	C 4 0.64 3500 u,d	N 5 0.54 63 u,b	O 6 0.465 54 u,u	
Na 1 2.65 372 h,b	Mg 2 2.03 923 h											Al 3 1.675 832 c	Si 4 1.42 1683 d	P 5 1.24 870 u	S 6 1.1 392 u	
K 1 3.69 337 b	Ca 2 3.00 1123 c,b	Sc 3 2.75 1811 h,b	Ti 4 2.58 1938 h,c,b	V 5 2.43 2190 b	Cr 6 2.44 2176 b	Mn 7 2.22 1517 u,u,c,b	Fe 8 2.11 1812 b,f,b	Co 9 2.02 1768 h,c	Ni 10 2.18 1728 c	Cu 11 2.04 1356 c	Zn 12 1.88 693 h	Ga 3 1.695 303 u	Ge 4 1.56 1210 d	As 5 1.415 1090 As	Se 6 1.285 490 Se	
Rb 1 4.10 312 b	Sr 2 3.21 1043 c,h,b	Y 3 2.94 1773 h,b	Zr 4 2.825 2128 h,b	Nb 5 2.76 2770 b	Mo 6 2.72 2890 b	Tc 7 2.65 2473 h	Ru 8 2.605 2700 h	Rh 9 2.52 2239 c	Pd 10 2.45 1823 c	Ag 11 2.375 1234 c	Cd 12 2.215 594 h	In 3 2.05 1773 u	Sn 4 1.88 505 u,d	Sb 5 1.765 903 As	Te 6 1.67 723 Se	
Cs 1 4.31 302 b	Ba 2 3.402 983 b	La 3 3.08 1193 L,c,b	Hf 4 2.31 2250 h,b	Ta 5 2.79 3270 b,u	W 6 2.735 3650 b	Re 7 2.68 3308 h	Os 8 2.65 3500 h	Ir 9 2.628 2727 c	Pt 10 2.70 2043 c	Au 11 2.66 1336 c	Hg 12 2.41 234 u	Tl 3 2.235 2300 h,c	Pb 4 2.09 601 c	Bi 5 1.997 545 As	Po 6 1.90 527 u,u	
Fr 1 4.37 293 b	Ra 2 3.53 973 u	Ac 3 3.13 1470 u														
			Ce 3 4.50 1077 c,L,c,b	Pr 3 4.48 1208 L,b	Nd 3 3.99 1297 L,b	Pm 3 3.99 1300 L,b	Sm 3 4.14 1345 u,h,b	Eu 3 3.94 1100 b	Gd 3 3.91 1585 h,b	Tb 3 3.89 1029 h,b	Dy 3 3.67 1680 h,b	Ho 3 3.65 1734 h,b	Er 3 3.63 1770 h,b	Tm 3 3.60 1818 h,b	Yb 3 3.59 1087 Lb	Lu 3 3.37 1928 h,b
			Th 3 4.98 1968 c,b	Pa 3 4.96 1500 u	U 3 4.72 1406 u,u,u,b	Np 3 4.93 913 u,u,b	Pu 3 4.91 913 u,u,c,b	Am 3 4.89 1103 h								

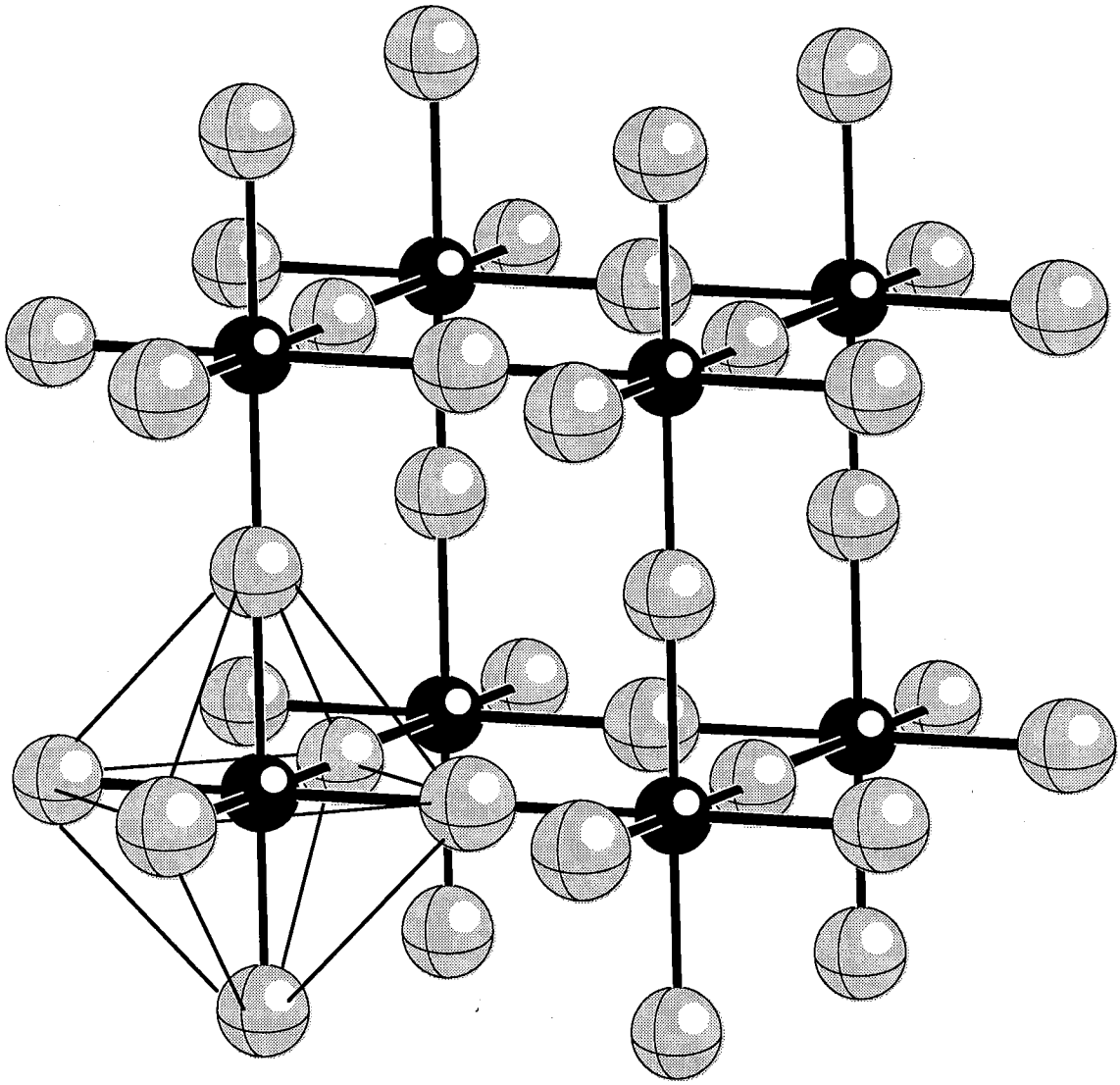


1978

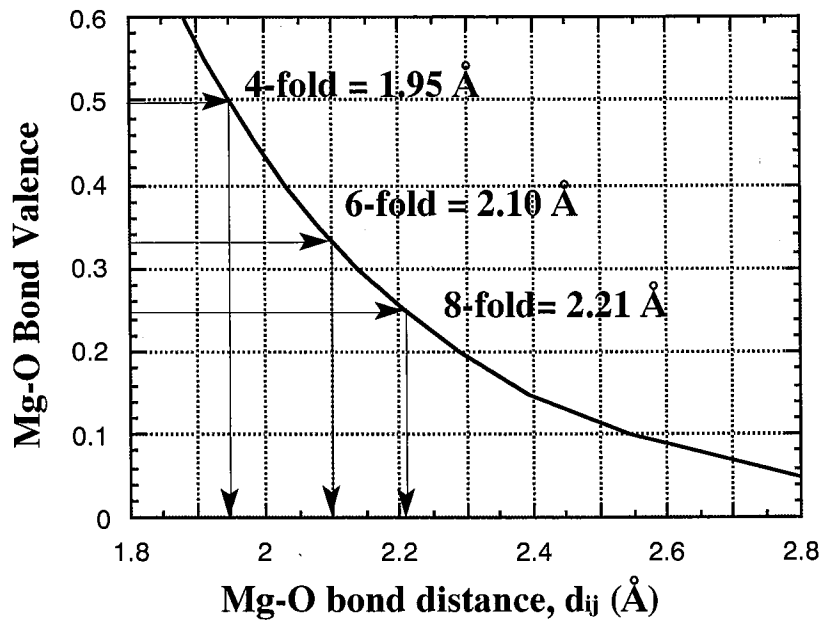


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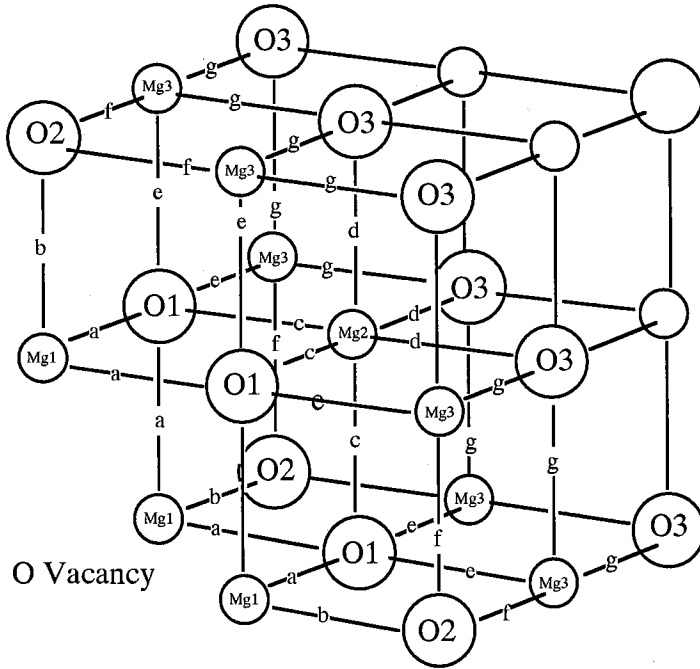
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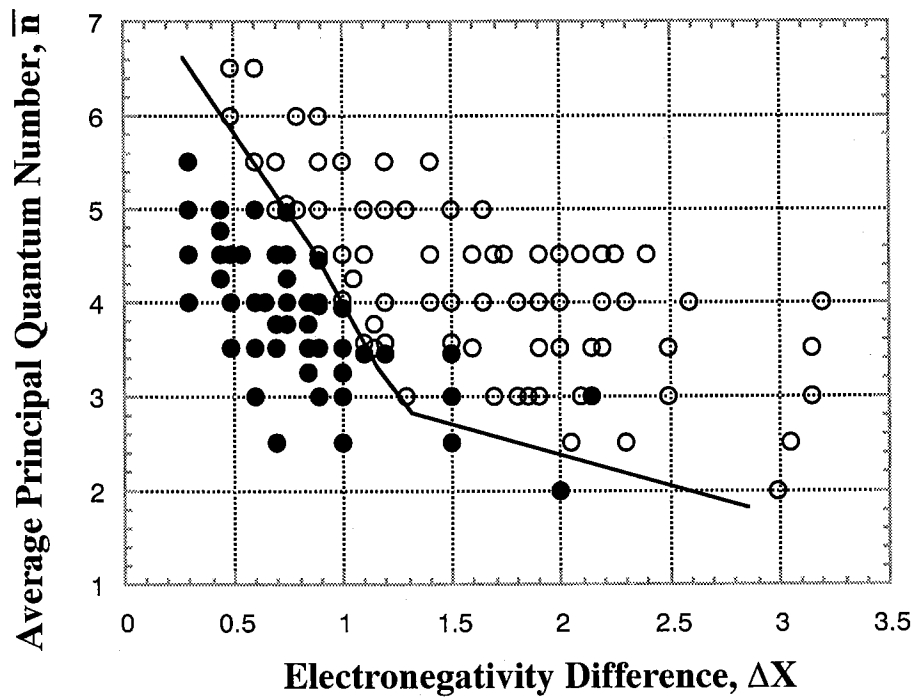
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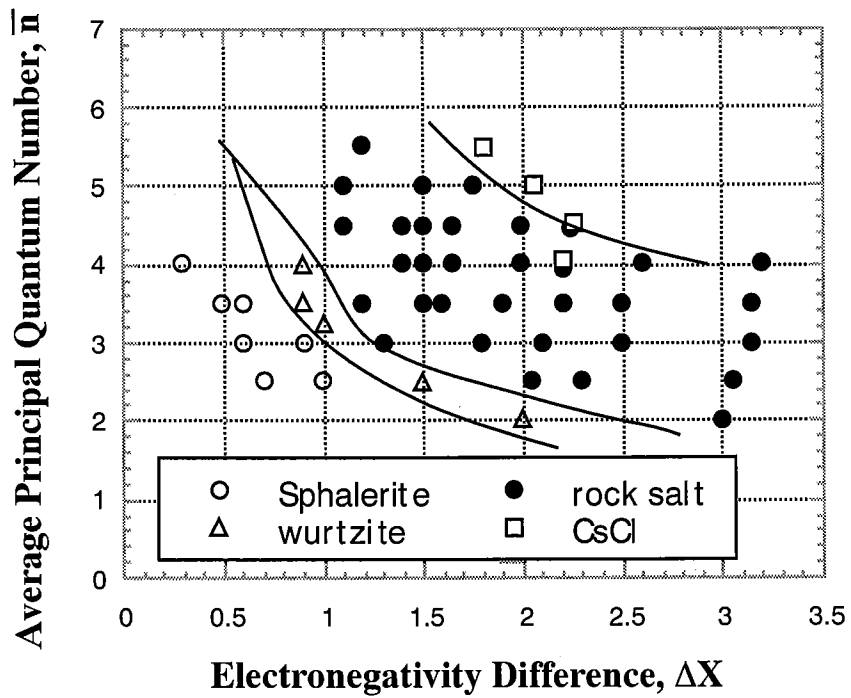


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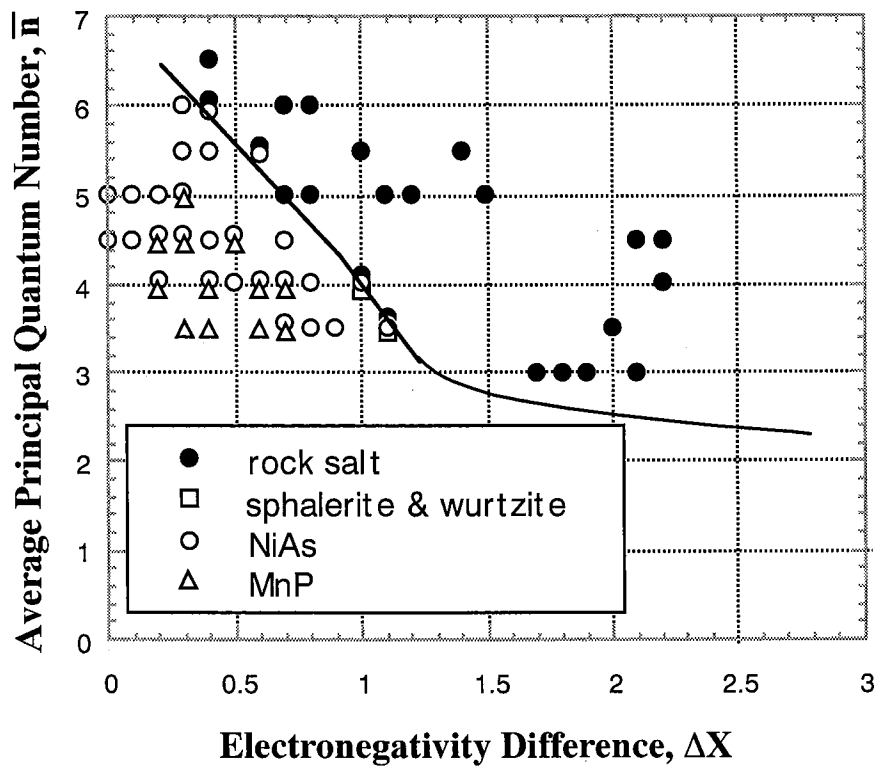


10, 11)

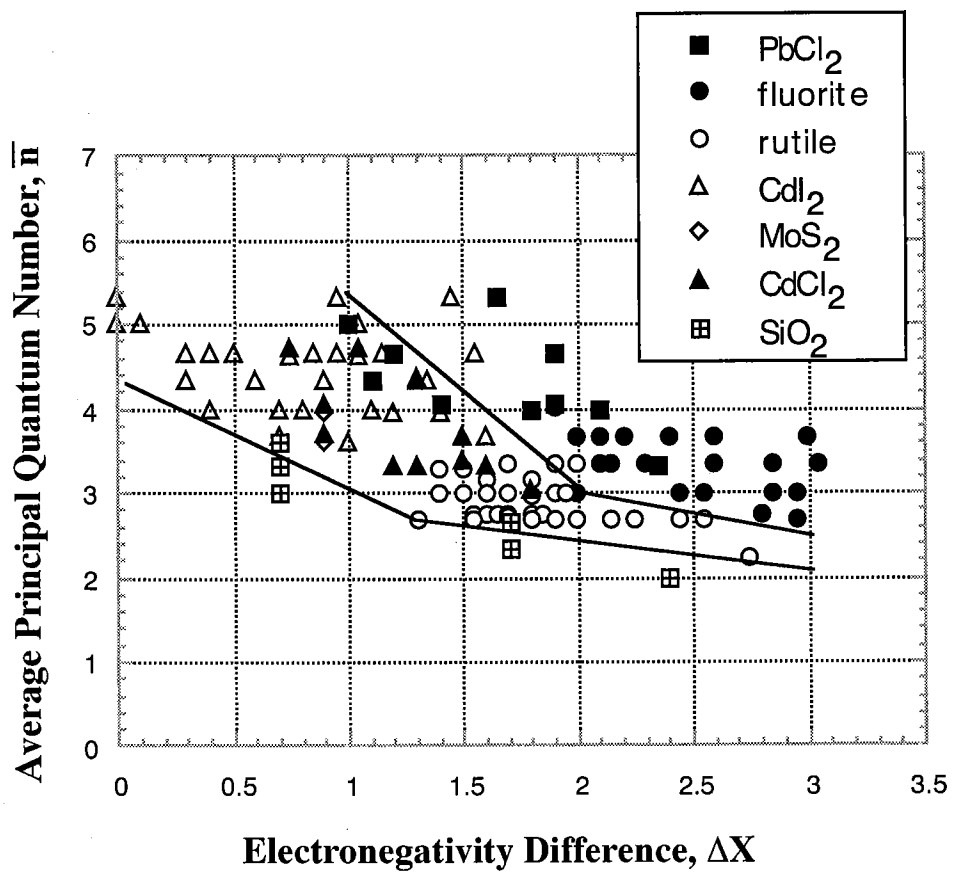




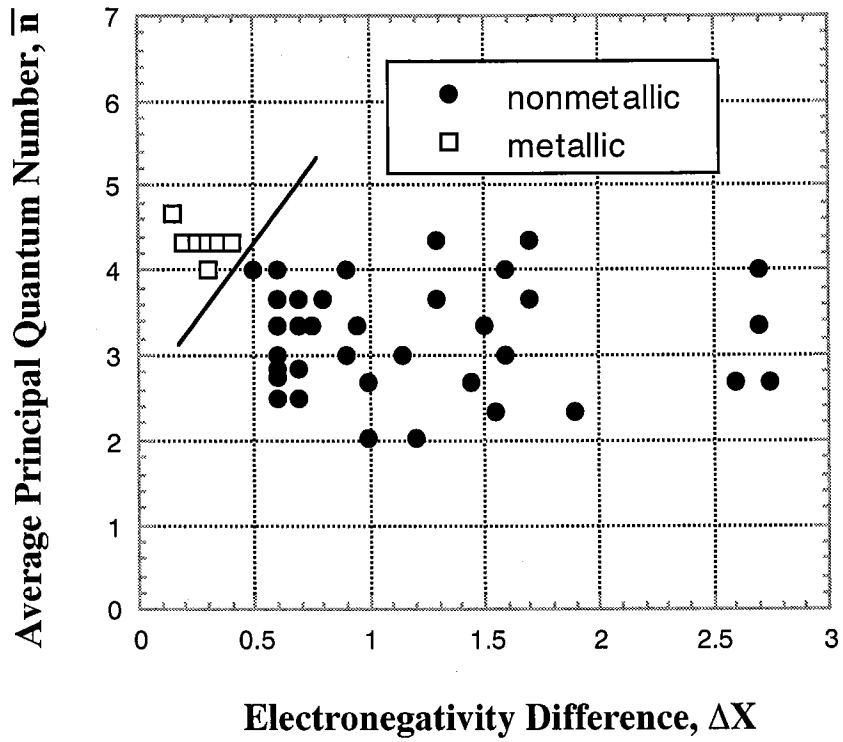
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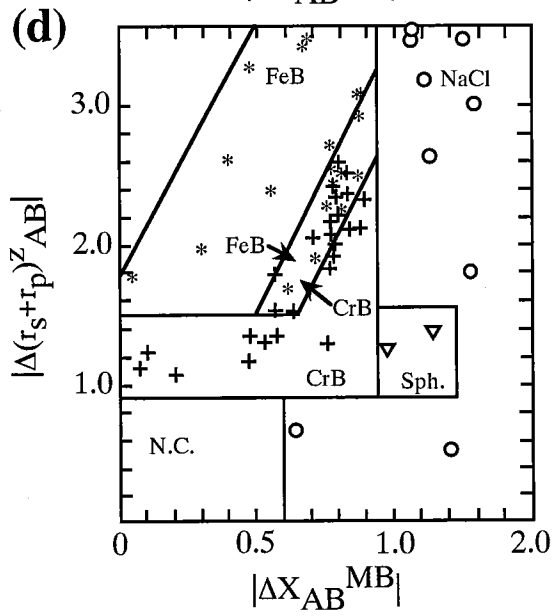
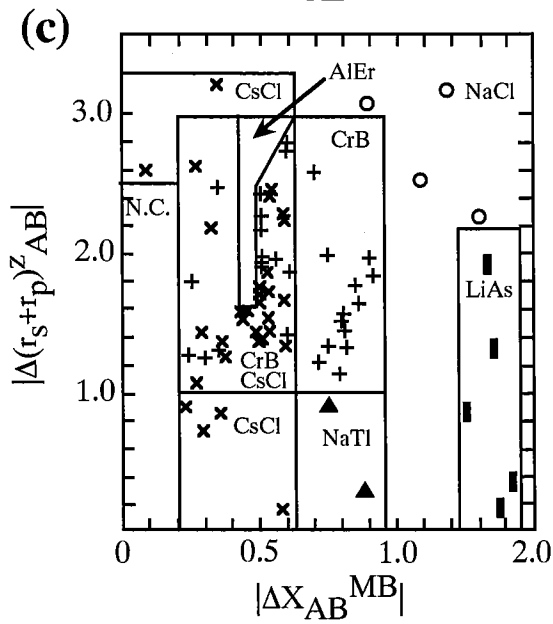
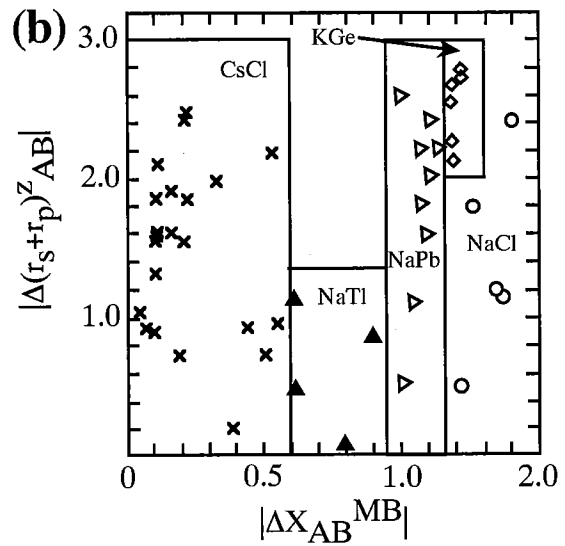
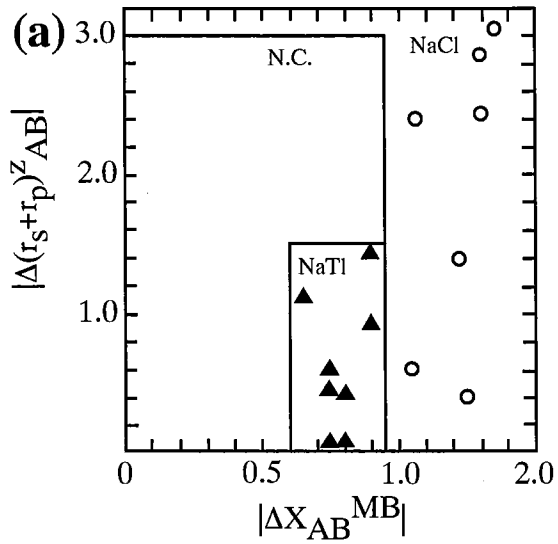
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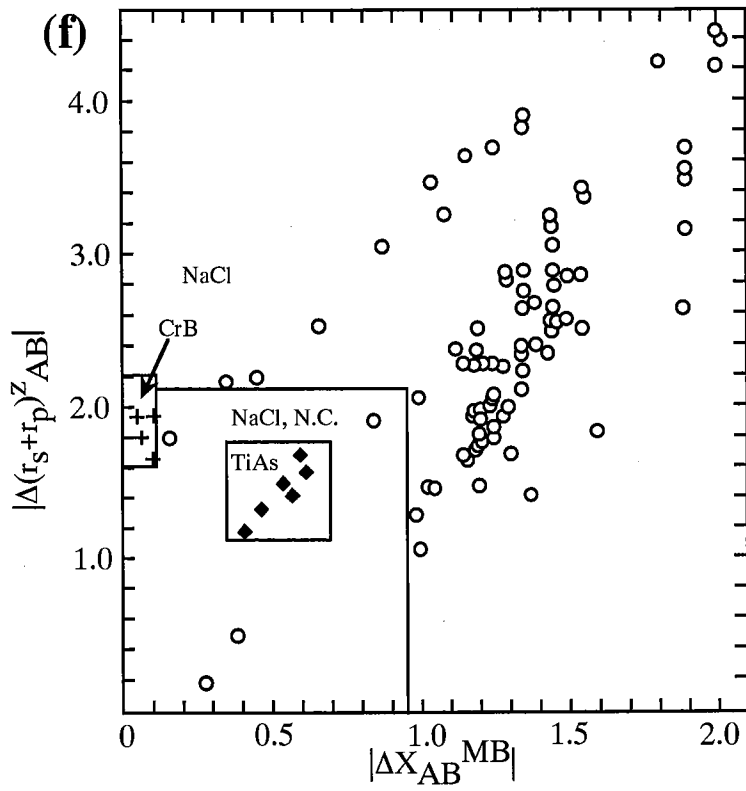
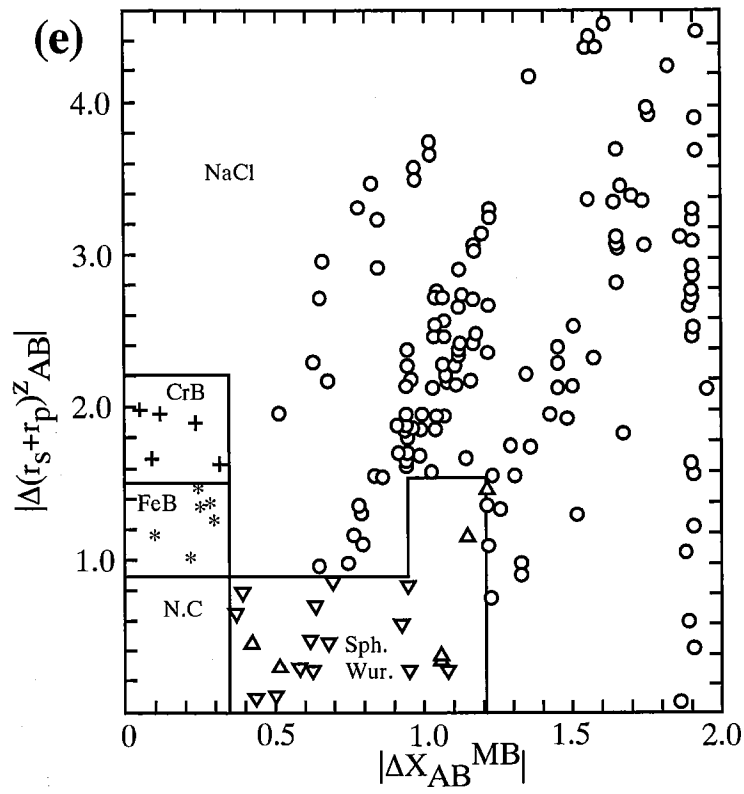
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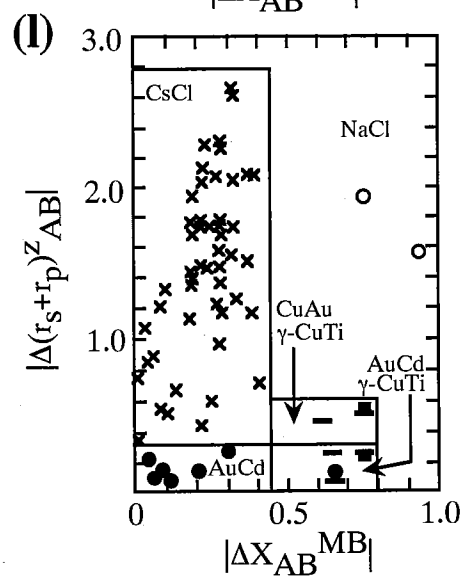
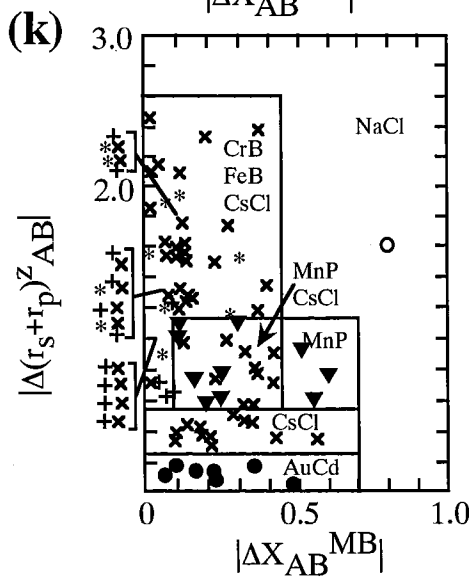
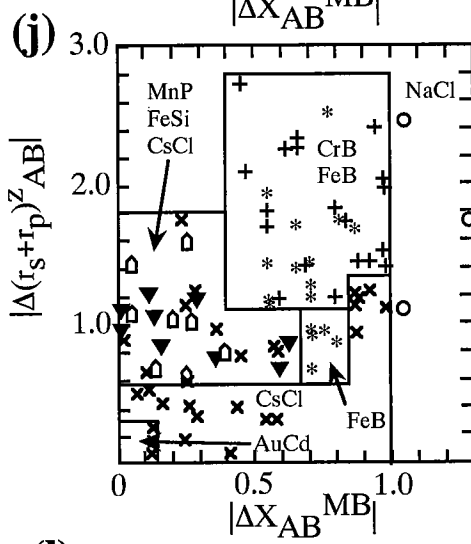
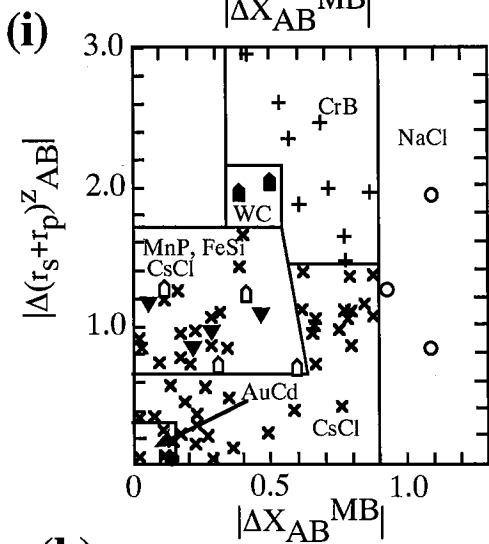
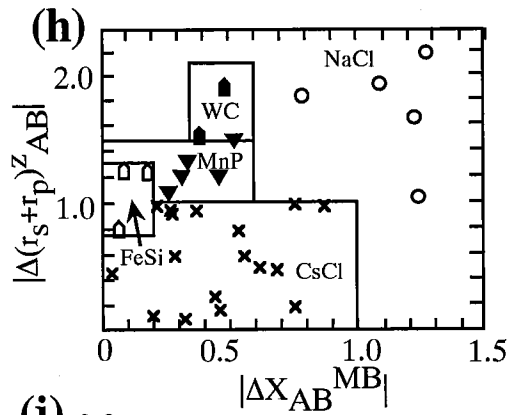
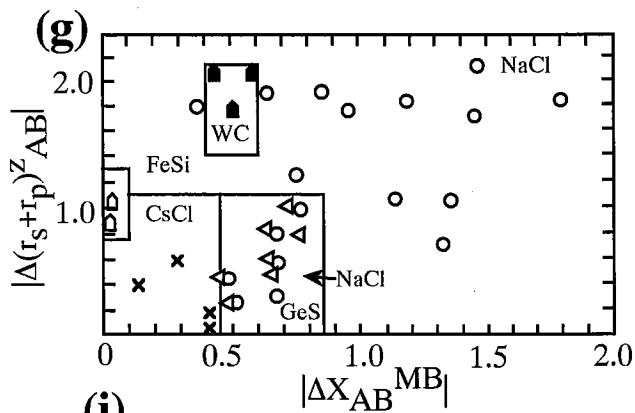
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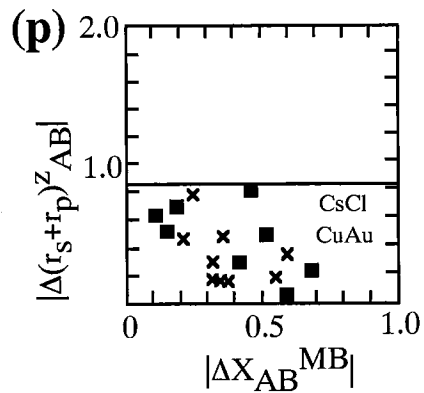
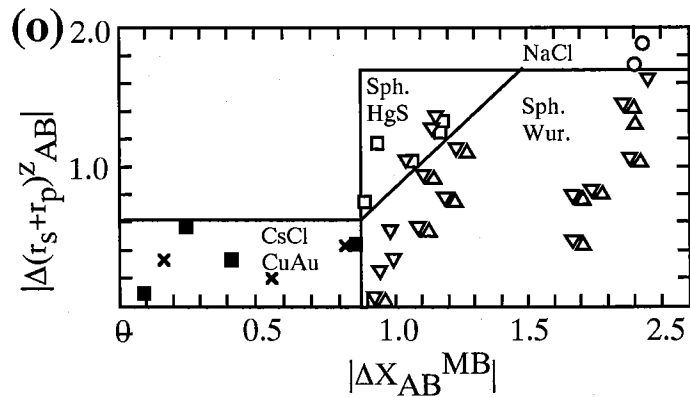
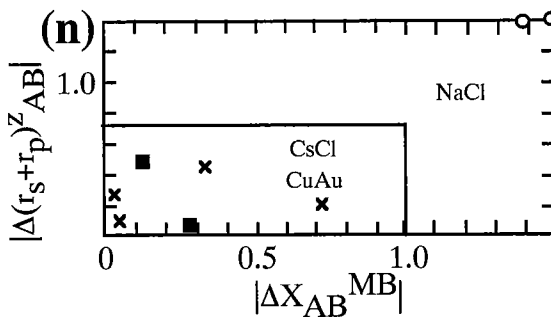
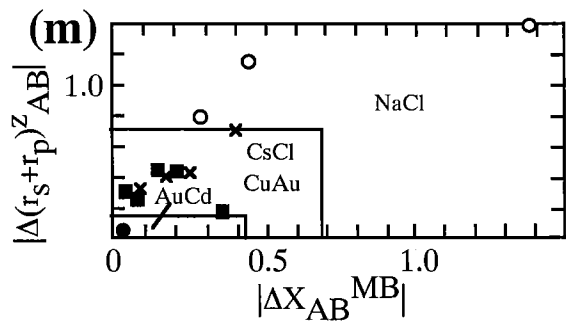
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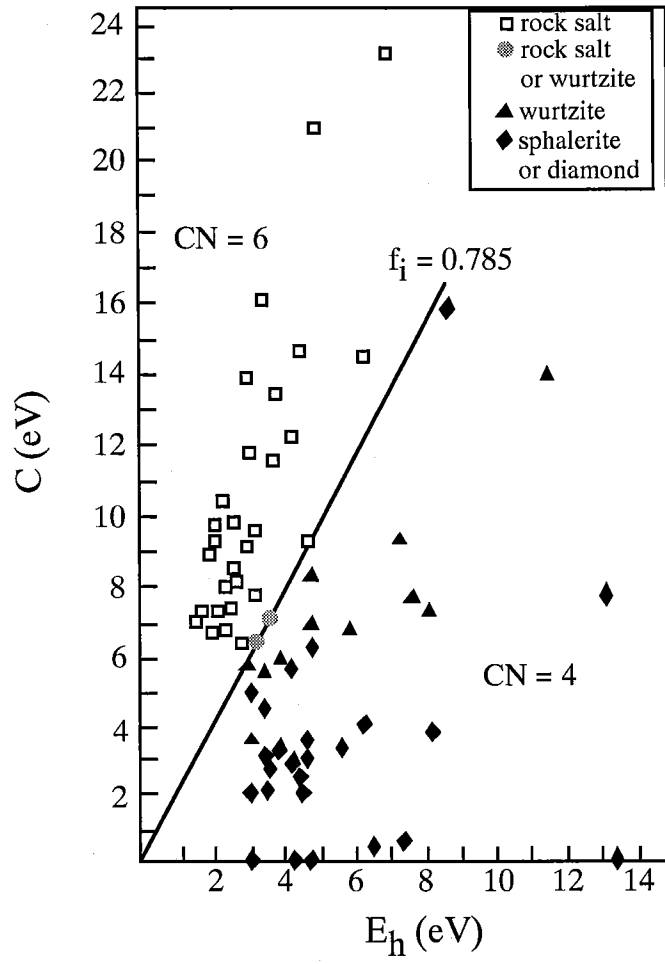


10/13/24

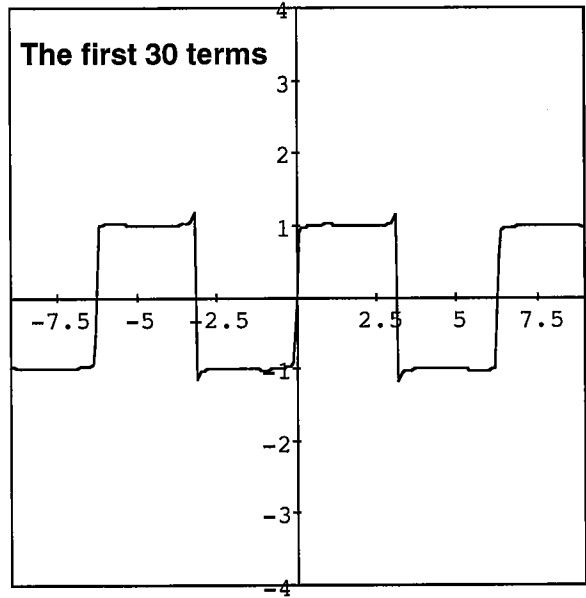
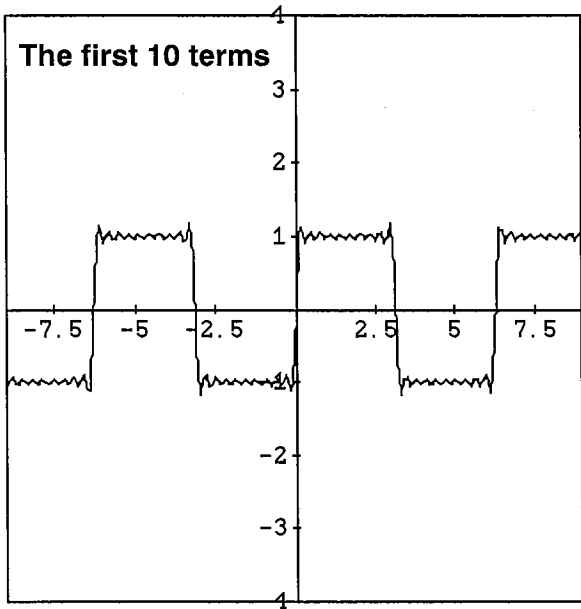
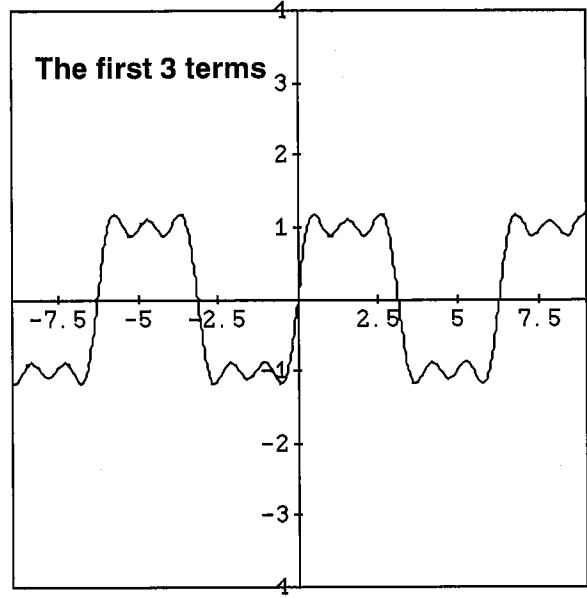
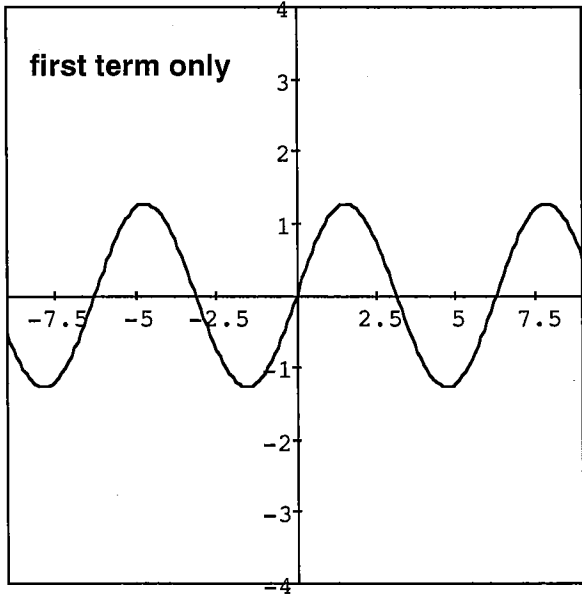


10.17 phijkl





10.18



5th.1

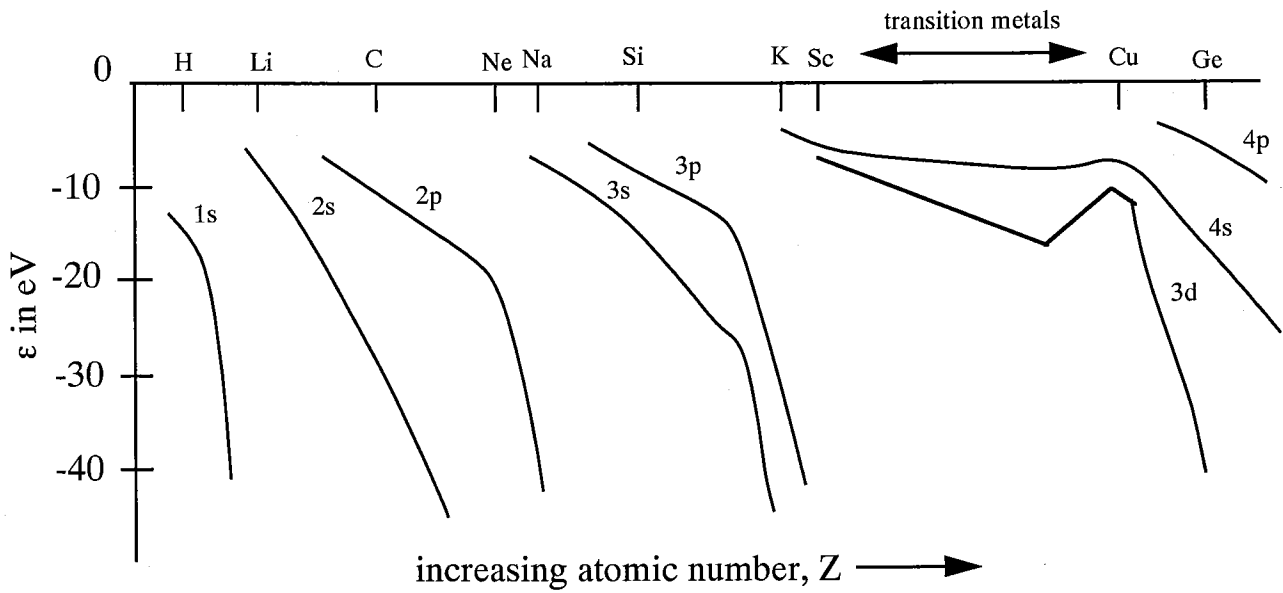
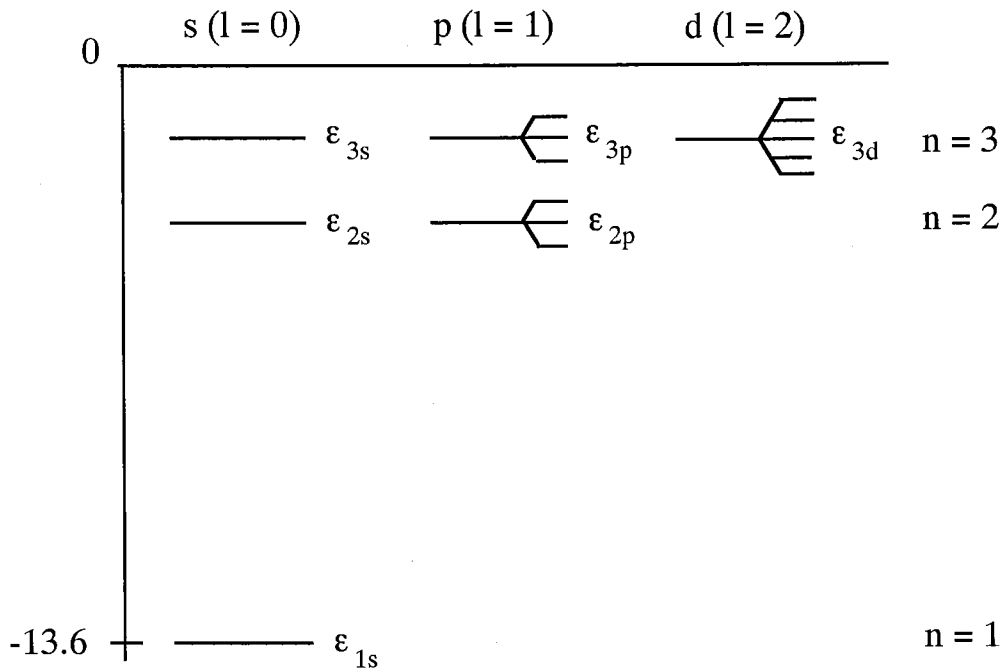
IA		nonmetals																0
1 H 2.20																	2 He	
IIA		Metals										IIIA IVA VA VIA VIIA						
3 Li 0.98	4 Be 1.57											5 B 2.04	6 C 2.55	7 N 3.04	8 O 3.44	9 F 3.98	10 Ne	
11 Na 0.93	12 Mg 1.31	IIIB	IVB	VB	VIB	VII B	VIII				IB	IIB	13 Al 1.61	14 Si 1.90	15 P 2.19	16 S 2.58	17 Cl 3.16	18 Ar
19 K 0.82	20 Ca 1.00	21 Sc 1.36	22 Ti 1.54	23 V 1.63	24 Cr 1.66	25 Mn 1.55	26 Fe 1.83	27 Co 1.88	28 Ni 1.91	29 Cu 1.90	30 Zn 1.65	31 Ga 1.81	32 Ge 2.01	33 As 2.18	34 Se 2.55	35 Br 2.96	36 Kr	
37 Rb 0.82	38 Sr 0.95	39 Y 1.22	40 Zr 1.33	41 Nb 1.6	42 Mo 2.16	43 Tc 1.9	44 Ru 2.2	45 Rh 2.28	46 Pd 2.20	47 Ag 1.93	48 Cd 1.69	49 In 1.78	50 Sn 1.96	51 Sb 2.05	52 Te 2.1	53 I 2.66	54 Xe	
55 Cs 0.79	56 Ba 0.89	57 La 1.10	72 Hf 1.3	73 Ta 1.5	74 W 2.36	75 Re 1.9	76 Os 2.2	77 Ir 2.20	78 Pt 2.28	79 Au 2.54	80 Hg 2.00	81 Tl 2.04	82 Pb 2.33	83 Bi 2.02	84 Po 2.0	85 At 2.2	86 Rn	
87 Fr 0.7	88 Ra 0.9	89 Ac 1.1																

Lanthanides

58 Ce 1.12	59 Pr 1.13	60 Nd 1.14	61 Pm 1.2	62 Sm 1.17	63 Eu 1.2	64 Gd 1.20	65 Tb 1.2	66 Dy 1.22	67 Ho 1.23	68 Er 1.24	69 Tm 1.25	70 Yb 1.2	71 Lu 1.27
90 Th 1.3	91 Pa 1.5	92 U 1.38	92 Np 1.36	94 Pu 1.28	95 Am 1.3	96 Cm 1.3	97 Bk 1.3	98 Cf 1.3	99 Es 1.3	100 Fm 1.3	101 Md 1.3	102 No 1.3	103 Lr 1.3

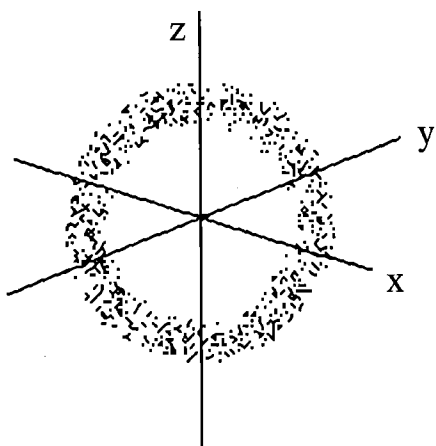
Actinides

7A.1

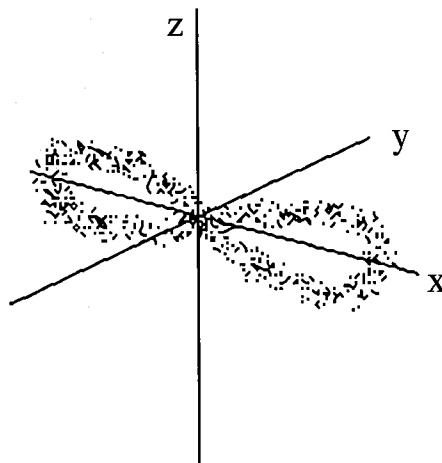


9B.1 9B.2

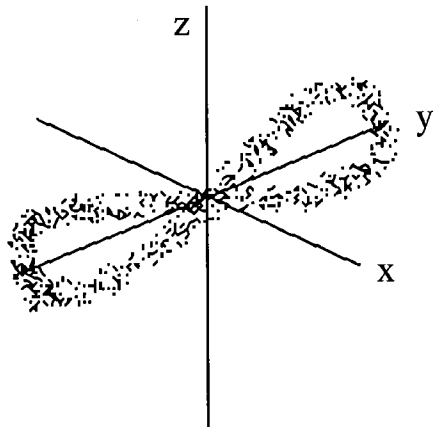
s-orbital



p_x -orbital



p_y -orbital



p_z -orbital

