

# ANASPEC

Support and Supply of Analytical Equipment

|               |  |                      |               |   |               |               |               |               |               |               |               |               |               |               |               |               |               |
|---------------|--|----------------------|---------------|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1<br>H<br>K   | ANASPEC Support and Supply of Analytical Equipment |                      |               |   |               |               |               |               |               |               |               |               |               |               |               |               | 2<br>He       |
| 3<br>Li       | 4 0.11<br>Be                                       | No. K $\alpha$       |               | Tel: +27 (0) 11 794-8340<br>Fax: +27 (0) 11 794 8349<br>Email: support@anaspec.co.za<br>WWW.ANASPEC.CO.ZA<br>South Africa |               |               |               |               |               |               |               | 5 0.18<br>B   | 6 0.277<br>C  | 7 0.392<br>N  | 8 0.525<br>O  | 9 0.677<br>F  | 10 0.85<br>Ne |
| 11 1.04<br>Na | 12 1.25<br>Mg                                      | Symbol               |               |   |               |               |               |               |               |               |               | 13 1.48<br>Al | 14 1.74<br>Si | 15 2.01<br>P  | 16 2.31<br>S  | 17 2.62<br>Cl | 18 2.96<br>Ar |
| 19 3.31<br>K  | 20 3.69<br>Ca                                      | 21 4.09<br>Sc        | 22 4.51<br>Ti | 23 4.95<br>V  | 24 5.41<br>Cr | 25 5.89<br>Mn | 26 6.4<br>Fe  | 27 6.92<br>Co | 28 7.47<br>Ni | 29 8.04<br>Cu | 30 8.63<br>Zn | 31 9.24<br>Ga | 32 9.87<br>Ge | 33 10.5<br>As | 34 11.2<br>Se | 35 11.9<br>Br | 36 12.6<br>Kr |
| 37 13.4<br>Rb | 38 14.1<br>Sr                                      | 39 14.9<br>Y         | 40 15.7<br>Zr | 41 16.6<br>Nb   | 42 17.4<br>Mo | 43 18.3<br>Tc | 44 19.2<br>Ru | 45 20.2<br>Rh | 46 21.2<br>Pd | 47 22.2<br>Ag | 48 23.2<br>Cd | 49 24.2<br>In | 50 25.3<br>Sn | 51 26.4<br>Sb | 52 27.5<br>Te | 53 28.6<br>I  | 54 29.8<br>Xe |
| 55 31<br>Cs   | 56 32.2<br>Ba                                      | L<br>M $\alpha$      | 72 7.9<br>Hf  | 73 8.14<br>Ta   | 74 8.4<br>W   | 75 8.65<br>Re | 76 8.91<br>Os | 77 9.17<br>Ir | 78 9.44<br>Pt | 79 9.71<br>Au | 80 10.0<br>Hg | 81 10.3<br>Tl | 82 10.6<br>Pb | 83 10.8<br>Bi | 84 11.1<br>Po | 85 11.4<br>At | 86 11.7<br>Rn |
| 87 12.0<br>Fr | 88 12.3<br>Ra                                      | L<br>A<br>M $\alpha$ |               |   |               |               |               |               |               |               |               |               |               |               |               |               |               |

|   |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| L | 57 33.4<br>La | 58 34.7<br>Ce | 59 36.0<br>Pr | 60 37.4<br>Nd | 61 38.7<br>Pm | 62 40.1<br>Sm | 63 5.85<br>Eu | 64 6.06<br>Gd | 65 6.27<br>Tb | 66 6.49<br>Dy | 67 6.72<br>Ho | 68 6.95<br>Er | 69 7.18<br>Tm | 70 7.41<br>Yb | 71 7.65<br>Lu |
| A | 89 12.7<br>Ac | 90 13.0<br>Th | 91 13.3<br>Pa | 92 13.6<br>U  | 93 13.9<br>Np | 94 14.3<br>Pu | 95<br>Am      | 96<br>Cm      | 97<br>Bk      | 98<br>Cf      | 99<br>Es      | 100<br>Fm     | 101<br>Md     | 102<br>No     | 103<br>Lr     |

- Metallic
- Amphoteric
- Non-metallic
- Inert Gas

Electron beam penetration depth into some elements ( units =  $\mu\text{m}$  ) ( only as an indication )

| Kv | C   | Na  | Al  | Si  | Ca  | Ti   | Fe   | Co   | Cu   | Mo  | Ag  | W    | Au   |
|----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|------|------|
| 5  | 1   | 1.5 | 1.2 | 1.2 | 2   | 0.75 | 0.4  | 0.35 | 0.4  | 0.3 | 0.3 | 0.17 | 0.1  |
| 10 | 1.5 | 5   | 1.8 | 1.8 | 3   | 1.25 | 0.65 | 0.6  | 0.6  | 0.5 | 0.5 | 0.3  | 0.3  |
| 15 | 3   | 7   | 2   | 2.2 | 3.5 | 1.5  | 0.8  | 0.7  | 0.7  | 0.6 | 0.6 | 0.35 | 0.4  |
| 20 | 4   | 10  | 3.5 | 4   | 6.5 | 2.5  | 1.75 | 1.2  | 1.25 | 1   | 1   | 0.5  | 0.45 |
| 25 | 6   | 13  | 5.5 | 6   | 9   | 3.5  | 2    | 1.5  | 1.1  | 1.5 | 1.5 | 0.7  | 0.5  |