## Muonic atom　　1984Ta05,1984Ta04,1968Ca07

| | | History | |
|---|---|---|---|
| Type | Author | Citation | Literature Cutoff Date |
| Full Evaluation | Balraj Singh | NDS 110, 1 (2009) | 20-Nov-2008 |

Other: 1983Ta14.

See 1976Fu04, 1974Fu04 and 1974En08 for theoretical work.

K x ray, L x ray observed by 1984Ta05 and 1968Ca07 and M x ray observed by 1968Ca07. Quadrupole moments for g.s. and 22-keV level deduced from these data.

### K x-rays (1984Ta05)

| Energy (keV) | intensity (relative) | energy (keV) | intensity (relative) |
|---|---|---|---|
| 4586.06 | 0.081 | 4559.52 | 0.081 |
| 4573.02 | 0.139 | 4478.84 | 0.087 |
| 4571.94 | 0.083 | 4476.18 | 0.053 |
| 4569.10 | 0.050 | 4476.01 | 0.110 |
| 4562.35 | 0.105 | 4473.34 | 0.089 |

### L x-rays (1984Ta05)

| Energy (keV) | intensity (relative) | energy (keV) | intensity (relative) |
|---|---|---|---|
| 1622.20 | 0.053 | 1550.51 | 0.112 |
| 1621.31 | 0.049 | 1542.05 | 0.049 |
| 1620.49 | 0.121 | 1541.03 | 0.056 |
| 1618.65 | 0.057 | 1538.73 | 0.138 |
| 1550.61 | 0.051 | 1530.14 | 0.043 |

### $^{151}$Eu Levels

| E(level) | J$^{\pi}$[†] | Comments |
|---|---|---|
| 0.0 | 5/2$^+$ | Q=0.903 $10$ (1984Ta04) |
| | | $\beta_2$=0.12 (1984Ta04). |
| | | $\Delta\langle r^2\rangle$($^{151}$Eu–$^{153}$Eu)=0.606 fm$^2$ $18$ (1984Ta05). |
| 21.5 | 7/2$^+$ | Q=1.28 $2$ (1984Ta05) |
| | | Q: Q(21.5 level)/Q(g.s.)=1.57 $24$ (1968Ca07). |
| | | B(E2)↑: 0.045 $2$ (1984Ta05), 0.072 $20$ (1968Ca07). |
| | | $\Delta\langle r^2\rangle$(isomer shift)=0.0248 fm$^2$ $73$ (1984Ta05). |

[†] From 'Adopted Levels'.