Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Y. Akovali	NDS 94, 131 (2001)	1-Aug-2001

$Q(\beta^-)=-2.11\times10^3$ *SY*; $S(n)=6.06\times10^3$ *SY*; $S(p)=2.35\times10^3$ *SY*; $Q(\alpha)=9.05\times10^3$ *SY*   2012Wa38

Note: Current evaluation has used the following Q record.

$Q(\beta^-)=-2165$ *SY*; $S(n)=6165$ *SY*; $S(p)=2258$ *SY*; $Q(\alpha)=9005$ *SY*   1995Au04

Assignment:
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    249Bk(92-97 MeV 18O,5n), Parent Of 4.3-S 258Lr (α'S)        1971Gh01
    249Bk(117-MeV 18O,5n), Chemistry                            1988Gr30
    249Bk(99-MeV 18O,5n), Chemistry                    1992Go28,1993Zi06
    248Cm(19F,5n), Parent Of 4.3-S 258Lr (α'S)                  1999Dr09
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^{262}Db Levels

E(level)	$T_{1/2}$	Comments
0.0	35 s *5*	$\%\alpha\approx67$

$\%SF(+\%\varepsilon+\%\beta^+)\approx33$

$T_{1/2}$: from measured half-lives: 40 s *10* (1971Gh01), 32.6 s *65* (1977Be43; from SF decay), 34.1 s *46* (1977Be43; from α decay), 35.2 s *+104−72* (1979Dr07; from SF decay), 33.5 s *94* (1989Kr17; from SF decay), 35.3 s *123* (1989Kr17; from correlated α's), 27 s *+20−11* (1999Dr09; from α's).

the α branching of$\approx67\%$ is adopted from the data of 1992Kr01. The SF branching of$\approx33\%$ deduced by 1992Kr01, May include $(\varepsilon+\beta^+)$ branching. An upper limit of$\approx5\%$ for $\varepsilon+\beta^+$ branch was obtained by 1977BeZM (see also 1977BeWH) from the absence of L x ray(Z=104) or K x ray(Z=104) preceding fission, by assuming $T_{1/2}({}^{262}Rf)\leq150$ μs. The adopted half-life of ^{262}Rf is 2.3 s *4*.

α and SF branchings were obtained In various experiments from α and fission counts: %SF or $\%\varepsilon\approx60$ (1971Gh01), %SF=78 *6* (1977Be43), %SF≈60 (1979Dr07), %SF=49 *18* (1988Gr30), %SF=51 *11* (1989Kr17), %SF≈33 (1992Kr01). 1971Gh01 addressed the possibility of including SF counts also from decay of ^{262}Rf, probable β^+ decay daughter of ^{262}Db, and counts from ^{263}Db and ^{263}Rf. Because of insufficient data, none of these possibilities was ruled out. The authors of 1992Kr01 examined the ^{263}Db production In their ^{249}Bk(^{18}O,xn) reaction At E(^{18}O)=93 and 99 MeV. The ^{263}Db nucleus decays by spontaneous fission, and its half-life is 27 s (1992Kr01). Different ratio of ^{262}Db/^{263}Db nuclei produced In various experiments could explain the inconsistent branchings deduced.

1997Mo25 calculated the partial half-lives for α and β^+ decays and obtained $T_{1/2}(\alpha)=78.86$ s, $T_{1/2}(\beta^+)=68.99$ s for ^{262}Db g.s. the partial half-life for SF decay was calculated by 1985Lo17 As $T_{1/2}(SF)\approx32$ s, and calculated by 1989Mo03, using two different methods, As 1.9 d and 71 d. See 1985Cw01 for calculation of fission barriers.

E(level)	$T_{1/2}$	Comments
0.0+x		level is populated In ^{266}Bh α decay. $Q(\alpha)({}^{266}$Bh$)=9550$ *300*, obtained by 1995Au04 from $Q(\alpha)$ systematics, suggests E(level)=118 *+320−118*.