Corrections to "On the Theory of Multiplicities in Finite Modules over Semi-Local Rings"

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The following corrections should be made:

P. 6, line 1, "E is also complete" should be added after the word "topology".

P. 12, LEMMA 5 should be omitted.

P. 13, The PROOF of THEOREM 6 should be replaced by the following: Put $B=A_\mathfrak{v}/\mathfrak{q}A_\mathfrak{v}$, $C=\hat{A}_\mathfrak{P}/\mathfrak{q}\hat{A}_\mathfrak{P}$ and $F=E\otimes_A B$. Then we see easily that $\hat{E}\otimes_A C\cong F\otimes_B C$. Let $O=F_0\subset F_1\subset\cdots\subset F_l=F$ be a composition series of the B-module F. Since the functor $T(\cdot)=\cdot\otimes_B C$ defined on the category of B-modules is exact (cf. J. P. Serre, Ann. Inst. Fourier 6(1955–1956), 1–42), the sequence of C-modules $0\to F_i\otimes_B C\to F_{i+1}\otimes_B C\to(F_{i+1}/F_i)\otimes_B C\to 0$ is exact. On the other hand, if H denotes a simple B-module, then $H\cong A_\mathfrak{v}/\mathfrak{p}A_\mathfrak{v}$ (as B-modules), and hence $l(H\otimes_B C)=l(\hat{A}_\mathfrak{P}/\mathfrak{p}\hat{A}_\mathfrak{P})$ (as C-modules). Therefore we have i), ii) and iii) follow from i) immediately.

P. 14, lines 5–6, "prime divisors" should read "radical".

P. 15, line 6 from the bottom, "$F'm'^n F'$" should read "$F'/m'^n F'$".

P. 16, line 10, "$E''\cap F'$" should read "$E''\otimes F'$". Take off the lines 11–14.