Errata to "Arithmetic properties of a theta lift from GU(2) to GU(3)"

p. 7: Of course, in general it is not true that $\text{Cl}_K \simeq \text{Cl}_K^2 \times \text{Cl}_K^{\text{inv}}$, but we have an exact sequence $1 \to \text{Cl}_K^{\text{inv}} \to \text{Cl}_K \to \text{Cl}_K^2 \to 1$.

p. 65, Corollary 4.7: For a better statement, see the author’s preprint "Divisibility of anticyclotomic $L$-functions and theta functions with complex multiplication."

p. 68: The boundary components are in fact defined over $\mathfrak{o}_{H_N}[1/N D]$, where $H_N$ is the ray class field of conductor $N$ of the ground field $K$. Due to an oversight in Larsen’s papers, the description of the compactification is only literally correct for $N \geq 3$, when the moduli problem is rigid, which is the only case that is used later.

p. 69: $\sigma_{m-1, \omega_K/Q}$ instead of $\sigma_{m, \omega_K/Q}$

p. 72: The assertions $H^1(\bar{M}_N, \mathcal{V}_{0, \mu} \otimes \mathbb{Z}_\ell) = 0$ and $H^1(\bar{S}, \bar{V}_{0, \mu}) = 0$ are incorrect. The argument can easily be corrected as follows: we have $H^1(\bar{S}, \bar{V}_{0, \mu}(-C)) = 0$ from the argument on p. 71, and also (using the notation introduced there) $H^2(\bar{S}, \bar{V}_{0, \mu}(-C)) \simeq H^0(\bar{S}, L^{-1}) = 0$ by Serre duality. Therefore, $H^1(\bar{S}, \bar{V}_{0, \mu}) \simeq H^1(\bar{S}, \bar{V}_{0, \mu, C}) = H^1(\bar{C}, \mathcal{O}_C)$ from the cohomology exact sequence. This implies that this cohomology group has the same dimension as the corresponding group in characteristic zero. A standard base change theorem [Mum2, p. 50/51, Corollary 2] finishes the argument.