

# On the modularity of rigid Calabi-Yau threefolds: Epilogue

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## Abstract

In a recent preprint of F. Gouvea and N. Yui (see [arxiv.org/abs/0902.1466](https://arxiv.org/abs/0902.1466)) a detailed account is given of a patching argument due to Serre that proves that the modularity of all rigid Calabi-Yau threefolds defined over  $\mathbb{Q}$  follows from Serres modularity conjecture. In this note (a letter to N. Yui) we give an alternative proof of this implication. The main difference with Serres argument is that instead of using as main input residual modularity in infinitely many characteristics we just require residual modularity in a suitable characteristic. This is combined with effective Chebotarev.