

Supplementary Information

Pursuing DHDPs: an Enzyme of Unrealised Potential as a Novel Antibacterial Target

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Synthesis of the most potent inhibitors in each category

α -KPA (from the series of analogues inspired by pyruvate)

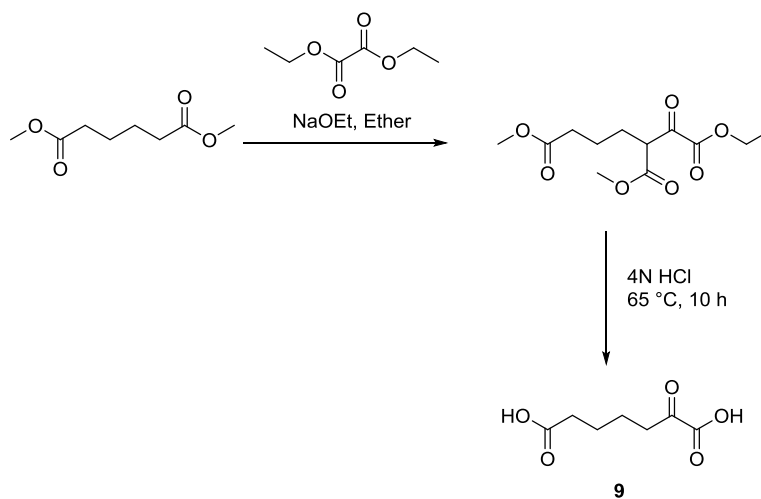
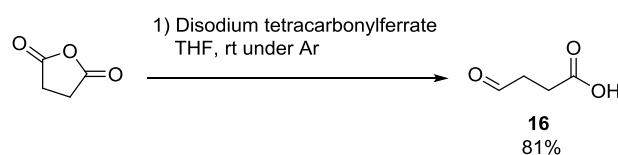


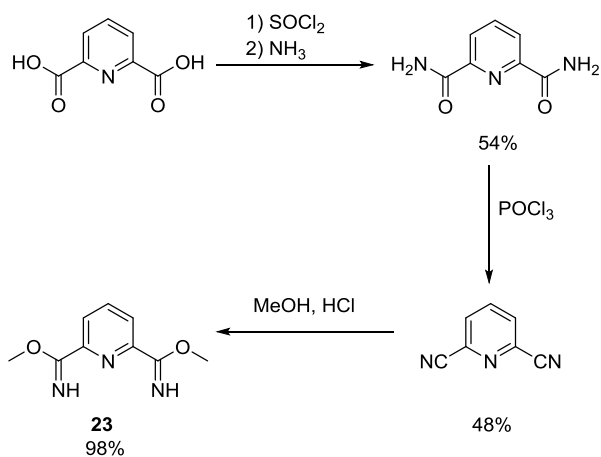
Figure 1: Synthesis of α -KPA **9**. Synthesis adapted from Ambler *et al.*¹

Succinic semialdehyde (from the series of analogues inspired by ASA)



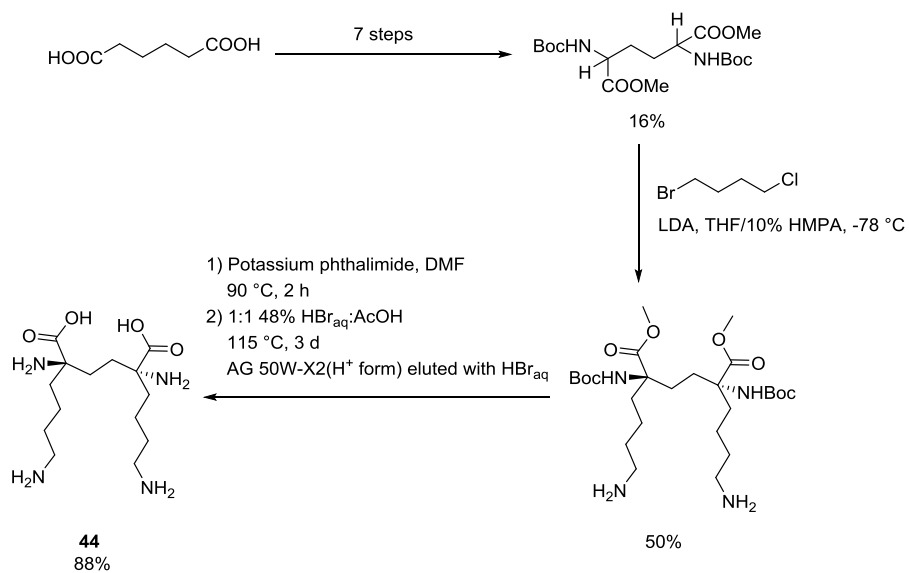
Scheme 2: Synthesis of di-imidate **16**. Synthesis adapted from Watanabe *et al.*²

Di-imidate (from the series of analogues inspired by the heterocyclic intermediates in DAP pathway)



Scheme 3: Synthesis of di-imidate **23**. Synthesis adapted from Couper *et al.*³

***R,R*-Bislysine (from the series of analogues inspired by lysine)**



Scheme 4: Synthesis of *R,R*-bislysine **44**. Synthesis adapted from Skovpen *et al.*⁴

References

1. S. J. Ambler, S. R. Baker, B. P. Clark, D. S. Coleman, R. J. Foglesong, J. Goldsworthy, G. E. Jagdmann, Jr., K. W. Johnson, A. E. Kingston, W. M. Owton, D. D. Schoepp, J. E. Hong, J. M. Schkeryantz, M. S. Vannieuwenhze and M. S. Zia-Ebrahimi, Pat., WO2001032632, 2001.
2. Y. Watanabe, M. Yamashita, T. Mitsudo, M. Tanaka and Y. Takegami, Pat., JP50112310, 1975.
3. L. Couper, J. E. McKendrick, D. J. Robins and E. J. T. Chrystal, *Bioorg. Med. Chem. Lett.*, 1994, **4**, 2267-2272.
4. Y. V. Skovpen, C. J. T. Conly, D. A. R. Sanders and D. R. J. Palmer, *J. Am. Chem. Soc.*, 2016, **138**, 2014-2020.