Scaffolded Multiple Cyclic Peptide libraries for Protein Mimics by Native Chemical Ligation

H. van de Langemheen, a M. van Hoeke, a H (Linda). C. Quarles van Ufford, a J. A. W. Kruijtzer a and R. M. J. Liskamp a, b

 a Medicinal Chemistry & Chemical Biology, Utrecht Institute for Pharmaceutical Sciences, Department of Pharmaceutical Sciences, Faculty of Sciences, Utrecht University, P.O. Box 80082, 3508 TB, Utrecht, The Netherlands.

 b School of Chemistry, Joseph Black Building, University of Glasgow, University Avenue, Glasgow G12 8QQ, United Kingdom.

R.M.J.Liskamp@uu.nl
Robert.Liskamp@glasgow.ac.uk
(Boc-Cys(Trt))₃-TAC(N(H)Me) 4

¹H NMR at 373 K

¹³C NMR at 373 K
HSQC at 373 K

COSY at 373 K
(H-Cys)$_3$-TAC(N(H)Me) 5

HPLC

Cyclic thioester loop 1 (11a)

HPLC
Cyclic thioester loop 2 (11b)

MALDI-TOF

HPLC

MALDI-TOF
Cyclic thioester loop 3 (11c)

HPLC

MALDI-TOF
Triple-ligated product 12

HPLC

MALDI-TOF

Shimazu Biotech Axima CFR 2.9.3.20110624: Mode Reflection, Power: 40, P. Ext. (§)|3215 (bin 17)

%int. 136 mV (sum=3165 mV) Profiles 1-29 Unsmoothed -Baseline 60
Mixture 13

Mass

Triple-capped product 13 – [1-1-1] mimic

HPLC
[1-1-3] mimic

HPLC
[1-3-3] mimic

HPLC
[1-1-2] mimic

HPLC
[1-2-3] mimic

HPLC
mass

[2-3-3] mimic

HPLC
[1-2-2] mimic

HPLC
[2-2-3] mimic

HPLC
Triple-capped TAC scaffold (for HIV-1 gp120 capture ELISA)

HPLC