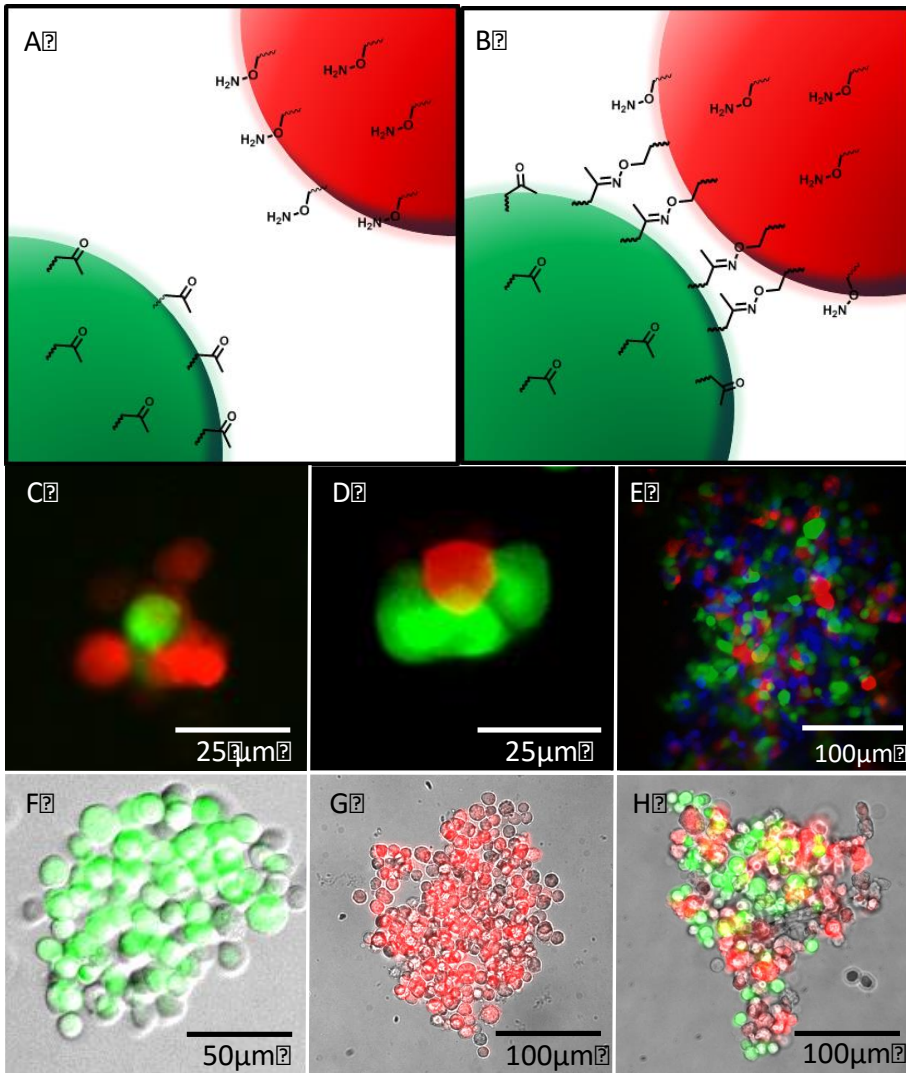
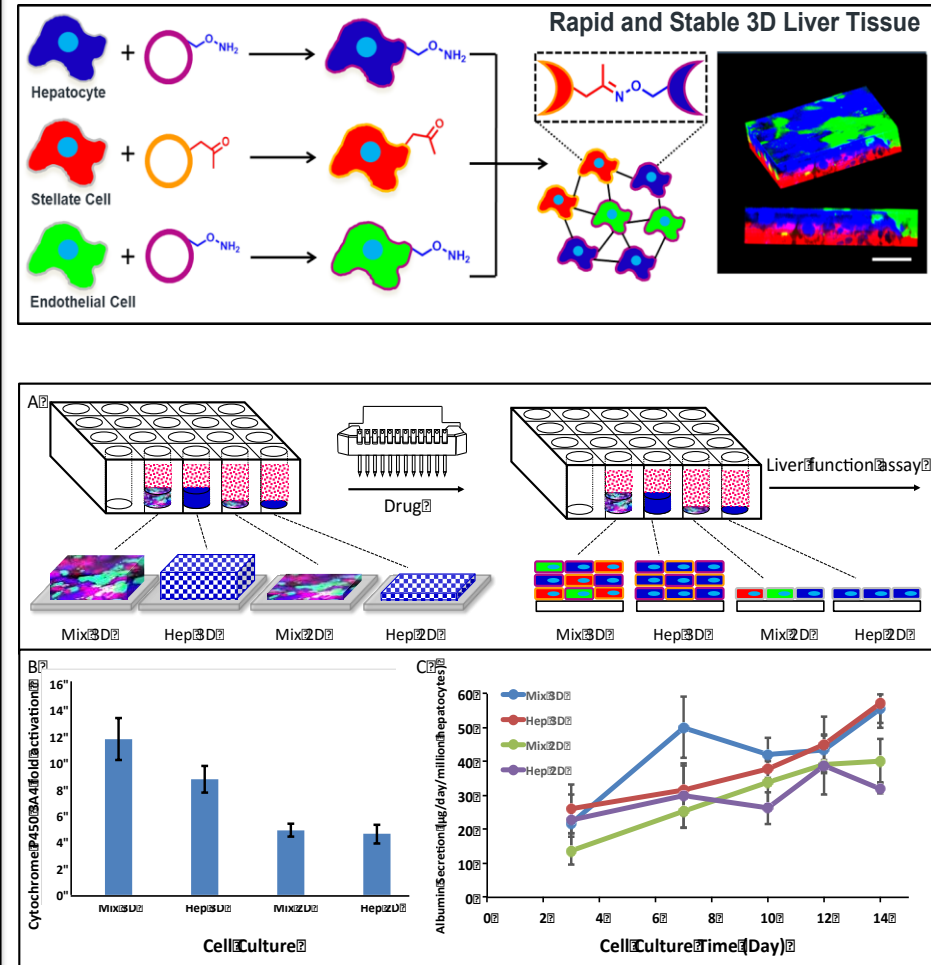


Examples of Cell Assembly

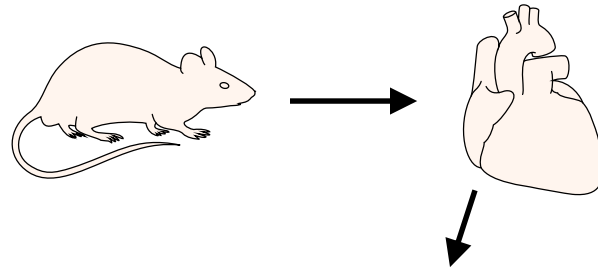
Complex Spheroid Formation



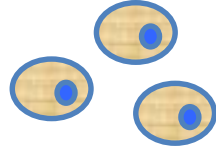
Functional 3D Liver Tissue



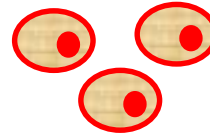
Functional 3D Cardiac Tissue with ViaGlue



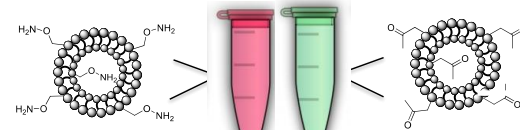
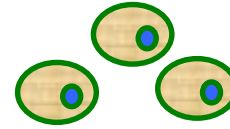
Fibroblasts



Cardiomyocytes



HUVECs

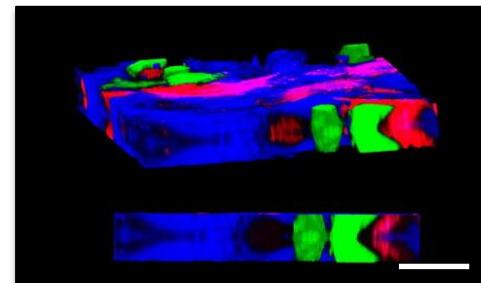
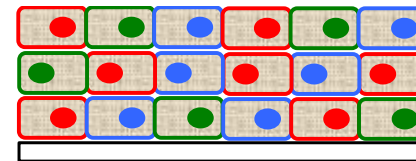
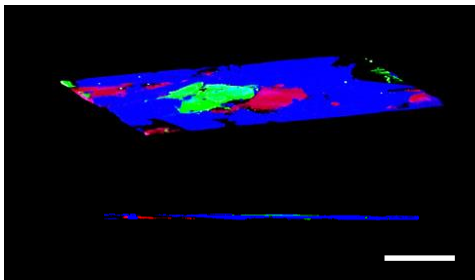


ViaGlue A

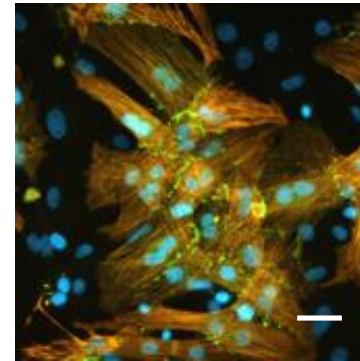
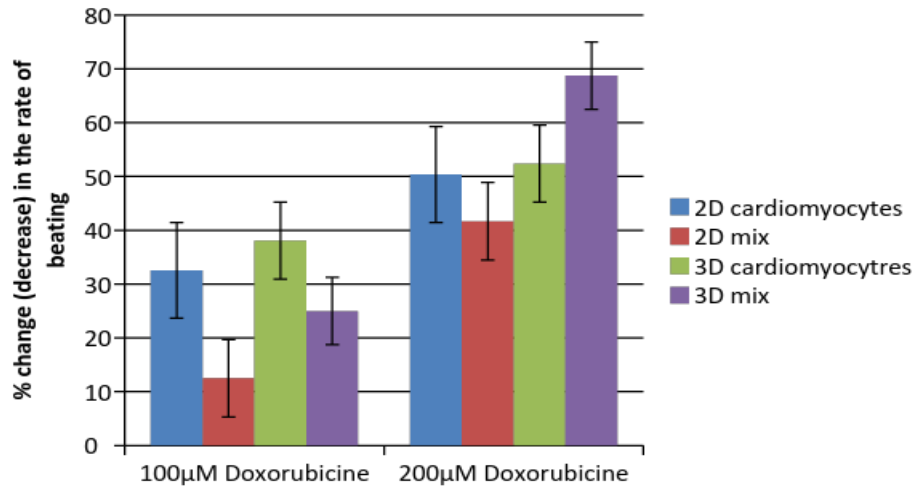
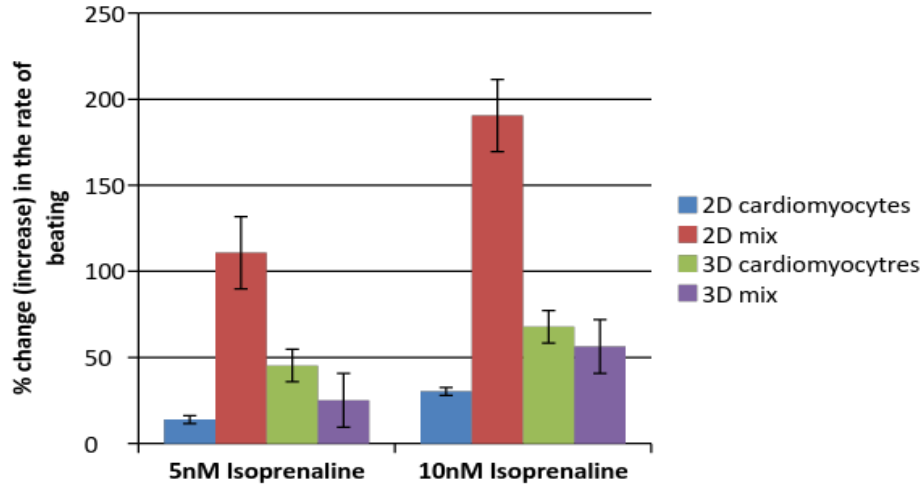
ViaGlue B

3D Co-Culture Cardiac Tissue

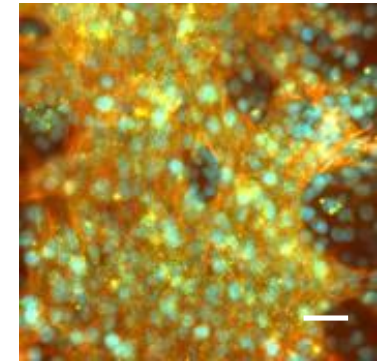
2D Co-Culture



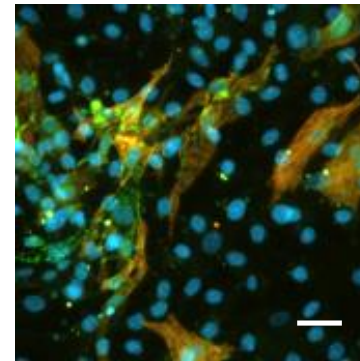
3D Cardiac Tissue Assembled with ViaGlue



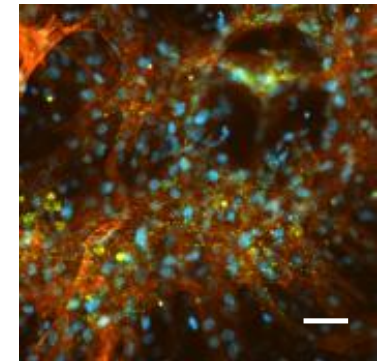
2D Cardiomyocytes



3D Cardiomyocytes



2D Mixed



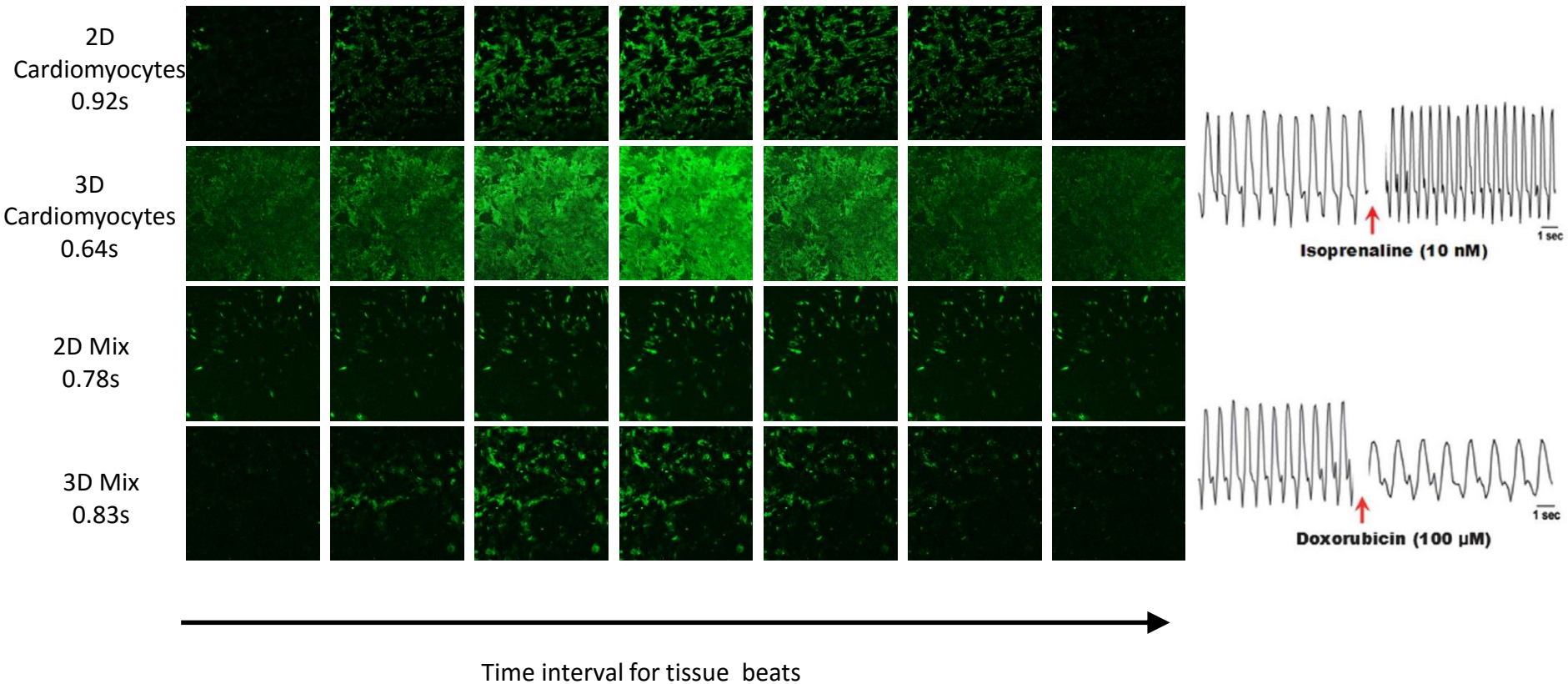
3D Mixed

Fluorescent antibody staining of tissues for expression of cardiac markers (cardiac troponin T and connexin 43). Scale bar: 80µM

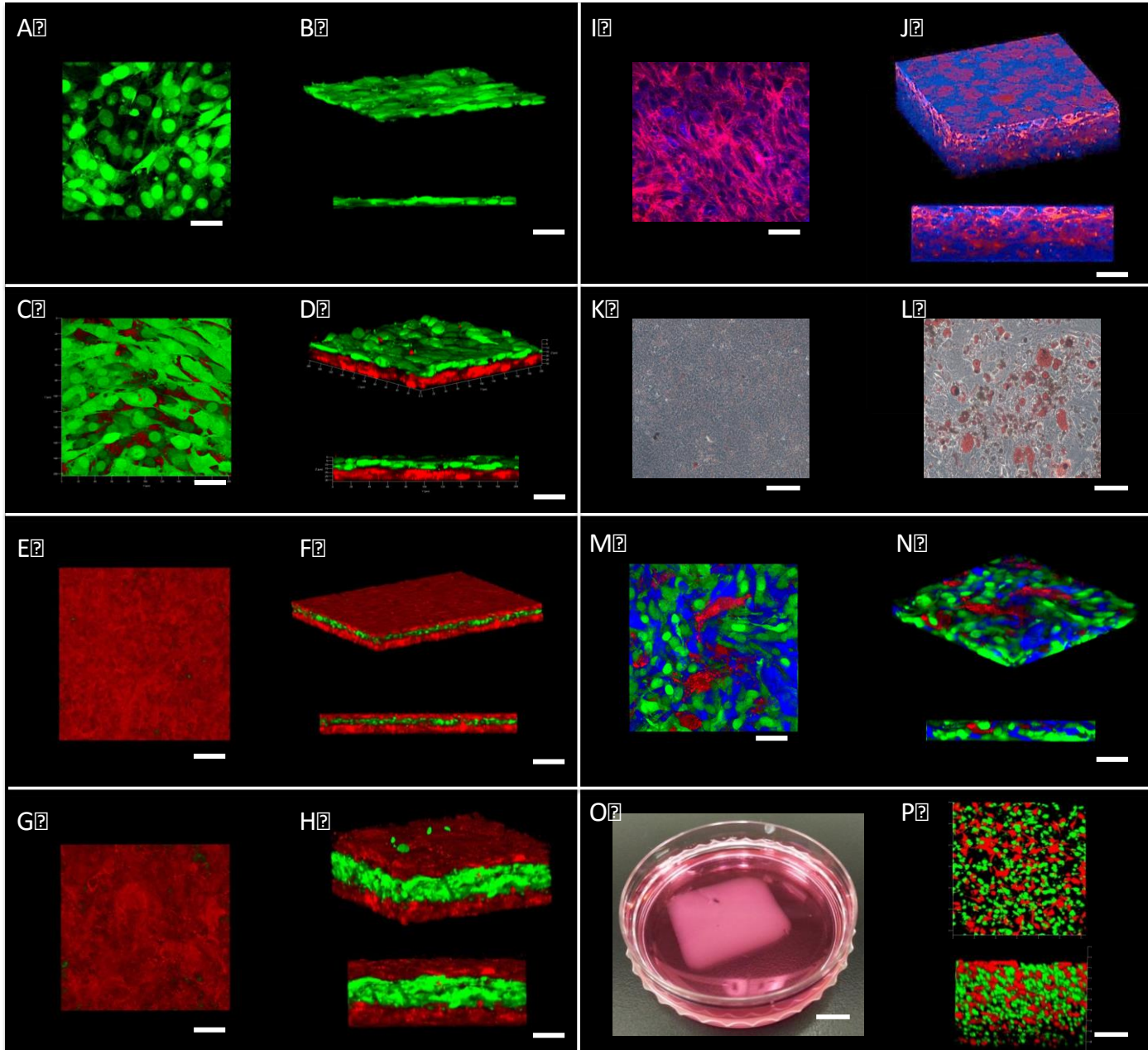
- DAPI
- cTnT
- Cxn43

Various Cardiac Tissue Assemblies Spontaneously Beat (no external electrical stimulation)

Scaffold free ViaGlue allows high cell contact density
for large tissue synchronous beating



Examples of Various Cell Assemblies Generated by ViaGlue





Generation and analysis of 3-Dimensional Liver Tissue formed via an Inter-cell Bio-orthogonal Mediated Assembly Process. **Submitted.**

A Dual Receptor and Reporter for Multi-Modal Cell Surface Engineering. W.Luo, N. P. Westcott, D. Dutta, A. Pulsipher, D. Rogozhnikov, J. Chen, M.N. Yousaf*. **ACS Chemical Biology**, 2015, 10, 2219–2226.

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Cell surface engineering by a conjugation and release approach based on the formation and cleavage of oxime linkages upon mild electrochemical oxidation and reduction. A. Pulsipher, D. Dutta, W. Luo, M.N. Yousaf*. **Angew. Chem. Int. Ed.** 2014, 53, 9487-9492.

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Synthetic Chemoselective Rewiring of Cell Surfaces: Generation of Three-Dimensional Tissue Structures. D. Dutta, A. Pulsipher, W. Luo, M. N. Yousaf*. **J. Am. Chem. Soc.** 2011, 133, 8704-8713. **Science** 2011, 332, 1011-1012.