Electronic Supplementary Material (ESI) for Soft Matter.

Supporting information

Clickable polymer scaffolds enable Ce recovery with peptide ligands

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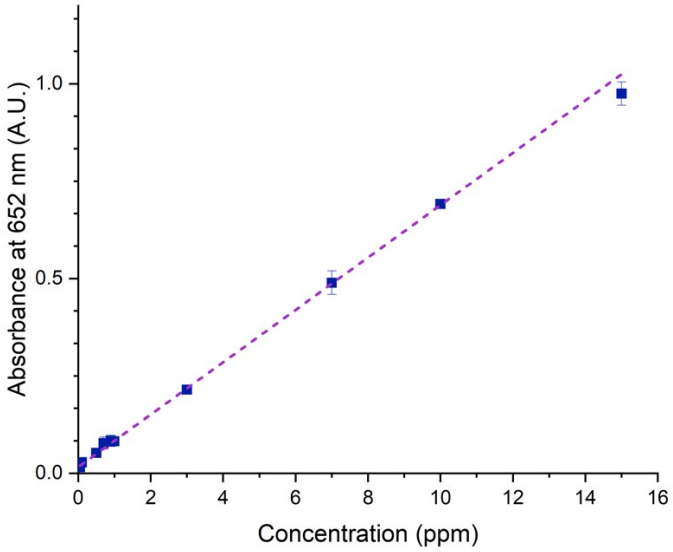

Figure S1. Representative calibration curve for cerium concentration determination using an arsenazo assay. The blue squares represent average absorbance at 652 nm for given concentrations of cerium (n= 3) and error bars represent standard deviation. A simple linear regression was performed using Origin, and the purple line represents the best fit line (slope = 0.067, intercept = 0.016, R^2 = 0.9996). A blank of just arsenazo solution was subtracted from each data point prior to fitting. Error bars represent standard deviation.

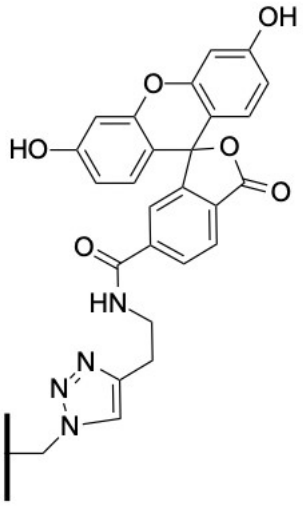

Figure S2. Structure of FAM alkyne 6 isomer 'clicked' on to the polymer surface.

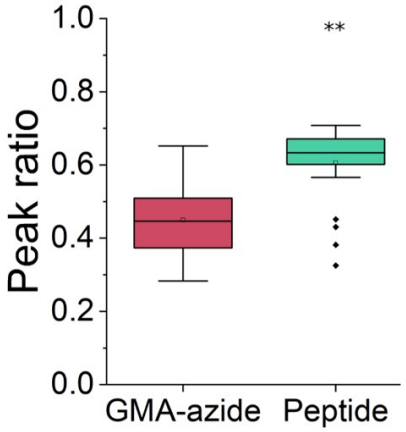

Figure S3. FTIR peak ratios (2990 cm^{-1} / 2100 cm^{-1}; -CH_3/-N_3) of different membranes characterized in this study. The peak ratio represents the extent to which the click reaction proceeds – the azide peak will diminish as the reaction proceeds while the -CH_3 peak should remain unchanged. Data are represented by box and whisker plots. Whiskers represent the maximum and minimum values, excluding outliers. (**) represents $p < 0.05$ compared to GMA-azide, two-sample t-test performed in Minitab assuming equal variances, n=8 for GMA-azide and n=27 for peptide.

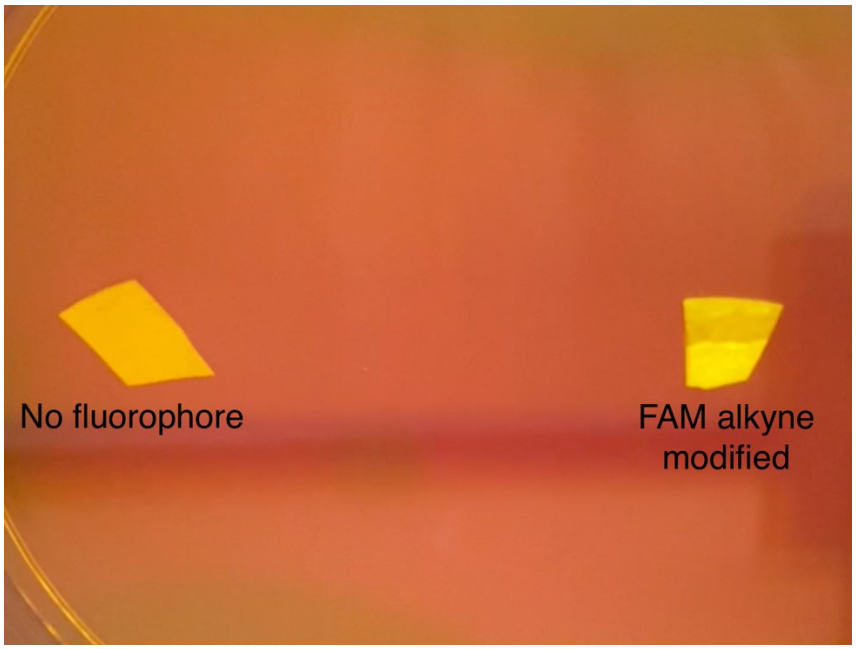

Figure S4. A photograph of a FAM alkyne labeled polymer scaffold viewed on a transluminator. Blue light illuminates the sample from below and is filtered out by the red filter – the yellow/green color of the fluorescence is shown. On the left is a membrane sample without fluorescent labeling, while the right membrane sample is labeled with FAM alkyne. The demarcation in fluorescence on the FAM alkyne modified polymer scaffold is due to the polymer not having a homogenous thickness.

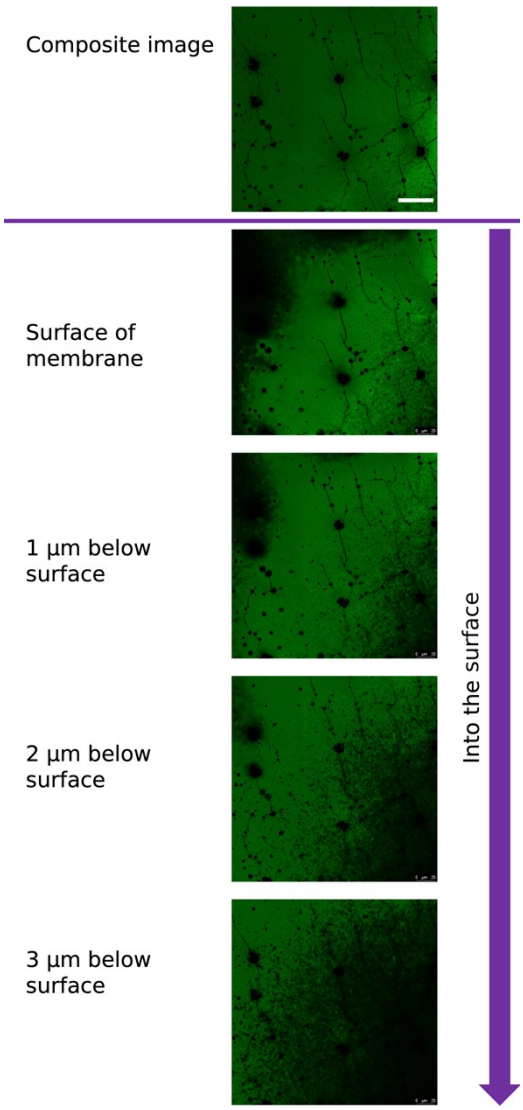

Figure S5. Confocal imaging into the surface of the polymer scaffold. At the top, a composite image of all confocal slices is shown to visualize the surface. Below the top image starts a series of confocal slices with each progressive image 1 µm further into the surface of the polymer scaffold. The scale bar on the composite image represents 50 µm.