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(54) **RECOMBINANT LUBRICINS, AND COMPOSITIONS AND METHODS FOR USING THE SAME**

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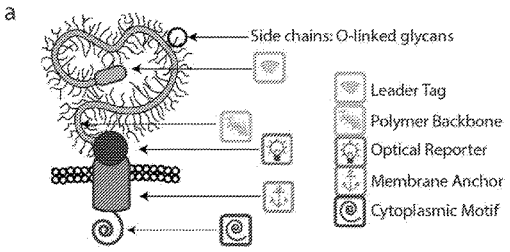
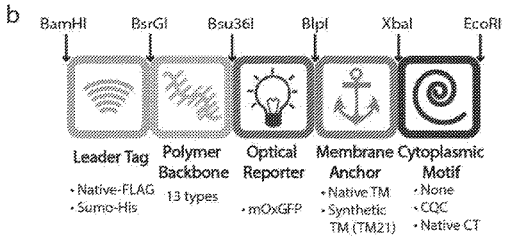
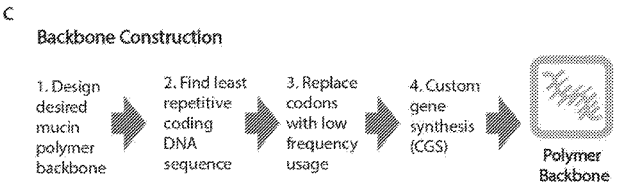
(57) **ABSTRACT**

Provided are compositions and methods related to modified lubricins, methods of making the modified lubricins, and methods of using the modified lubricins for coating a variety of inanimate objects, and for prophylaxis and/or therapy of disorders where enhanced lubrication of one or more parts of a human or non-human mammal is desirable.

Specification includes a Sequence Listing.







d Condon-scrambled Polymer Backbones (13 total)

Name	Sequence	# Repeats	%S/T
Wild-type Muc1	PDTRPAPGSTAPPAHGVTSA	x0, x10, x21, x42	25.0
Muc1 single mutant (Muc1_S)	PDTRPAPGATAPPAHGVTSA	x21	20.0
Muc1 double mutant (Muc1_D)	PDTRPAPGATAPPAHGVTAA	x21	15.0
Muc1 triple mutant (Muc1_T)	PDARPAPGATAPPAHGVTAA	x21	10.0
Synthetic 1 (Syn1)	DAATPAP	x40, x80	14.2
Synthetic 2 (Syn2)	DAATPAPP	x40, x80	12.5
Synthetic 3 (Syn3)	PPASTSAPG	x40	33.3
Lubricin consensus (Syn4)	KEPAPTTP	x20	25.0