Supporting Information

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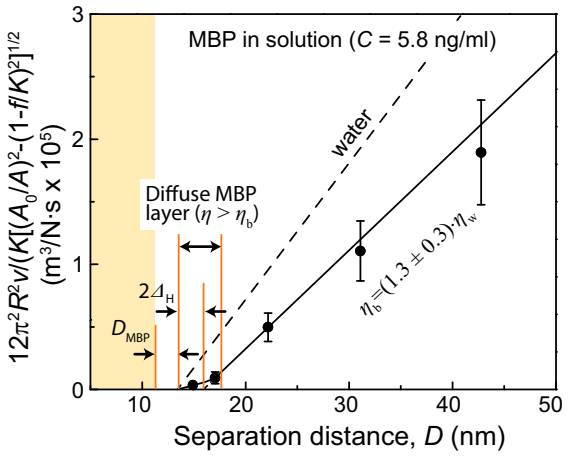

Fig. S1. Plot of viscosity measurement performed between normal myelin bilayers measured at myelin basic protein (MBP) concentration C = 5.8 ng/mL.

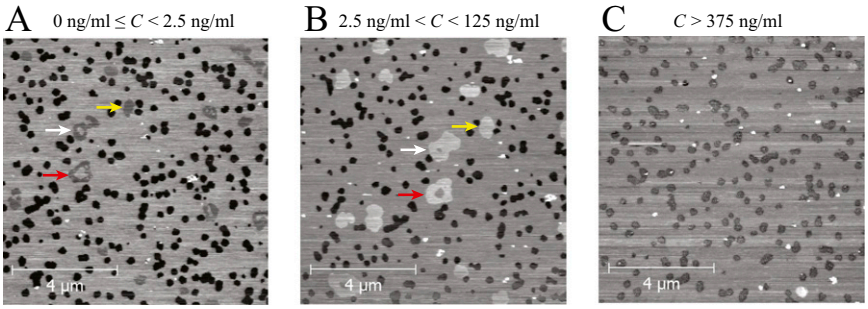

Fig. S2. Atomic force microscope (AFM) images of experimental allergic encephalomyelitis (EAE) model myelin bilayers at different C. Arrows indicate liquid-disordered phase (L_d), and the same colors indicate the same areas (A) before and (B) after MBP adsorption to the L_d phase. Area fraction of bilayer holes (black) decreased from 14% to 12% when MBP was adsorbed to the L_d phase. The area fraction of bilayer holes may range from 0% to 20% depending on bilayer preparation procedures. Typically, applying stress to bilayers by exposing them to air for a few seconds and dipping them back into aqueous solution induces bilayer holes. When C is higher than 375 ng/mL, MBP adsorbs unselectively to L_d, L_o, and bilayer holes.

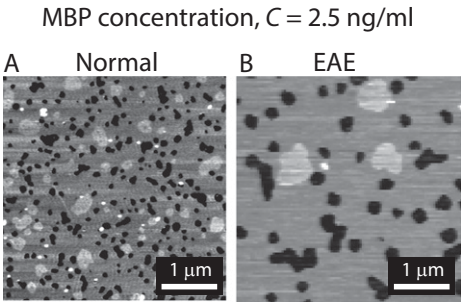

Fig. S3. AFM images of (A) normal and (B) EAE model myelin bilayers at C = 2.5 ng/mL. MBP-adsorbed L_d phase domains of the normal bilayers were smaller but exhibited a higher area fraction (8.4%) compared with EAE bilayers, which had an area fraction of 5.5%.