Supporting Information

Magneto-mechanical enhancement of elastic moduli in magnetoactive elastomers

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The magneto-induced deformations and the MR effect are shown as a function of the initial aspect ratio γ_0 for different values ϕ_p at constant $\phi = 0.3$. In figures (S1), (S2) and (S3) the shifting of maxima can be seen with respect to the parameter ϕ_p for MAEs with SCs and SDs microstructures. The parameter ϕ_p is varied from $\phi_p = \phi$ to $\phi_p = 0.4$. All figures are plotted for $\mid \vec{H}_0 \mid = 470$ kA/m, $G_m = 17$ kPa.

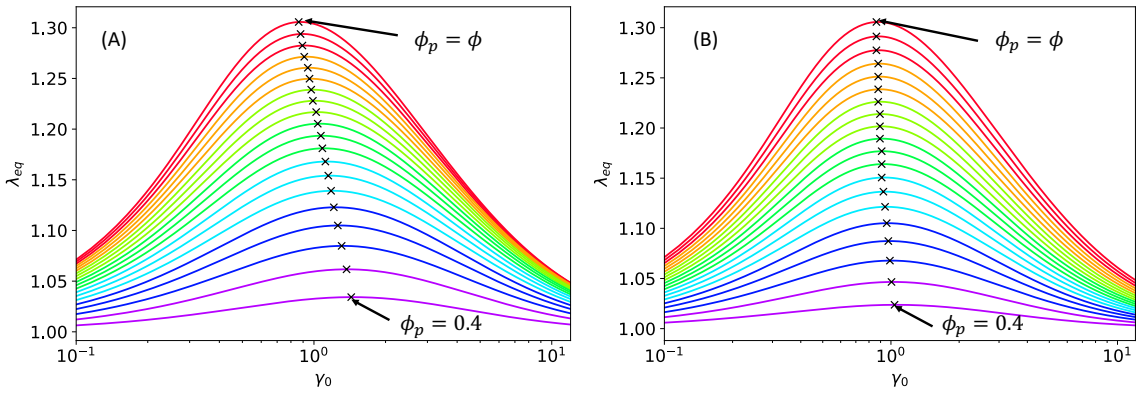

Figure S1: The magneto-induced elongations of anisotropic MAEs as a function of the initial aspect ratio γ_0 at different volume fractions ϕ_p and $\phi = 0.3$. (A) For smeared columns, (B) for smeared disks.

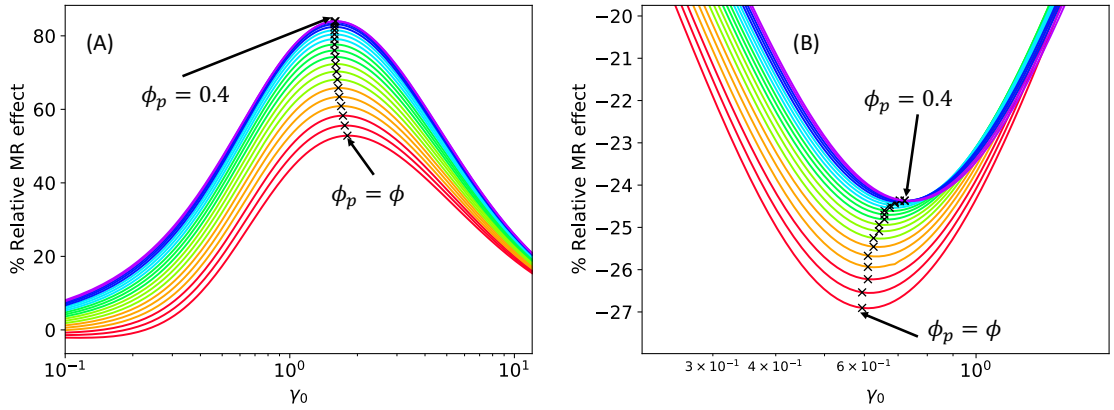

Figure S2: The magneto-rheological effect of anisotropic MAEs with SCs as a function of the initial aspect ratio γ_0 at different volume fractions ϕ_p and $\phi = 0.3$. (A) The MR effect along $\vec{H}_0$, (B) The MR effect perpendicular to $\vec{H}_0$.

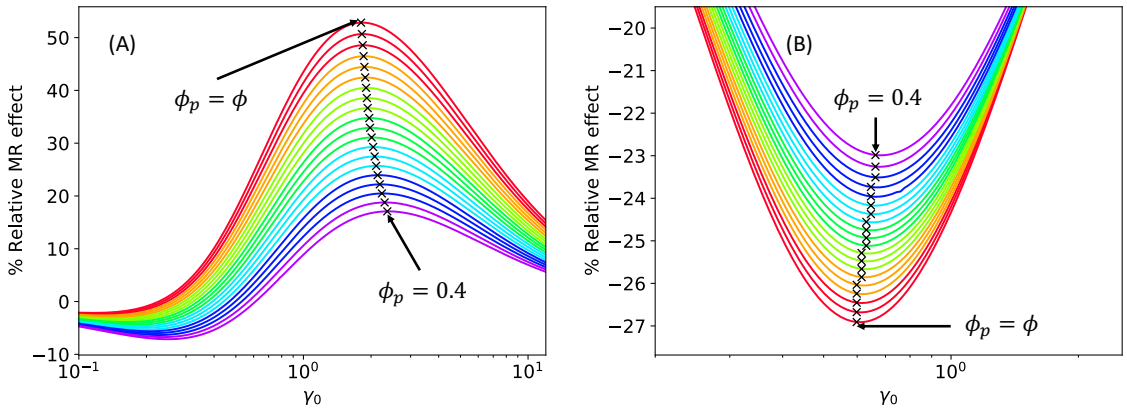

Figure S3: The magneto-rheological effect of anisotropic MAEs with SDs as a function of the initial aspect ratio γ_0 at different volume fractions ϕ_p and $\phi = 0.3$. (A) The MR effect along $\vec{H}_0$, (B) The MR effect perpendicular to $\vec{H}_0$.