

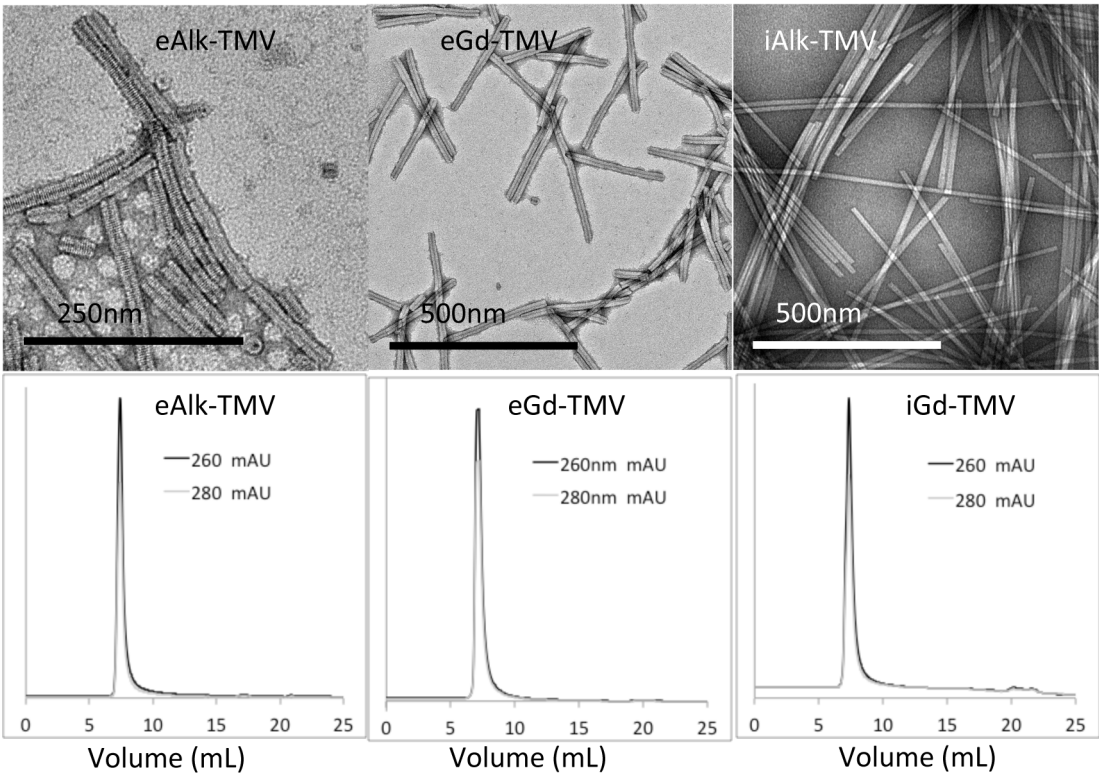
## Supporting Information

# Tobacco mosaic virus rods and spheres as supramolecular high-relaxivity MRI contrast agents

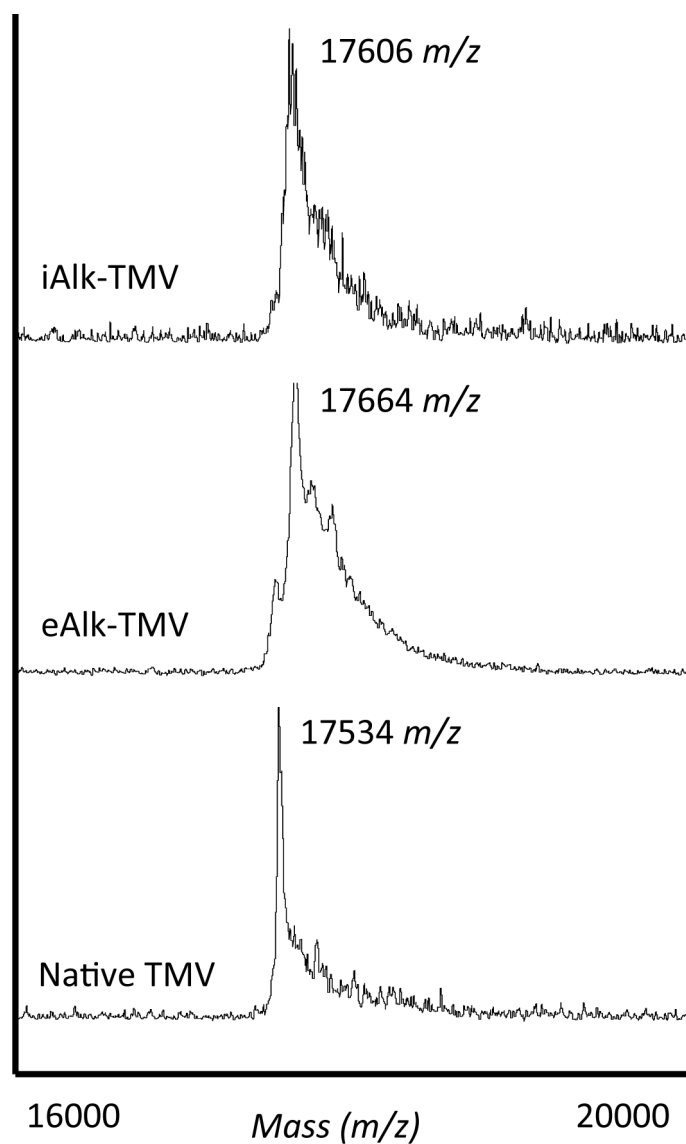
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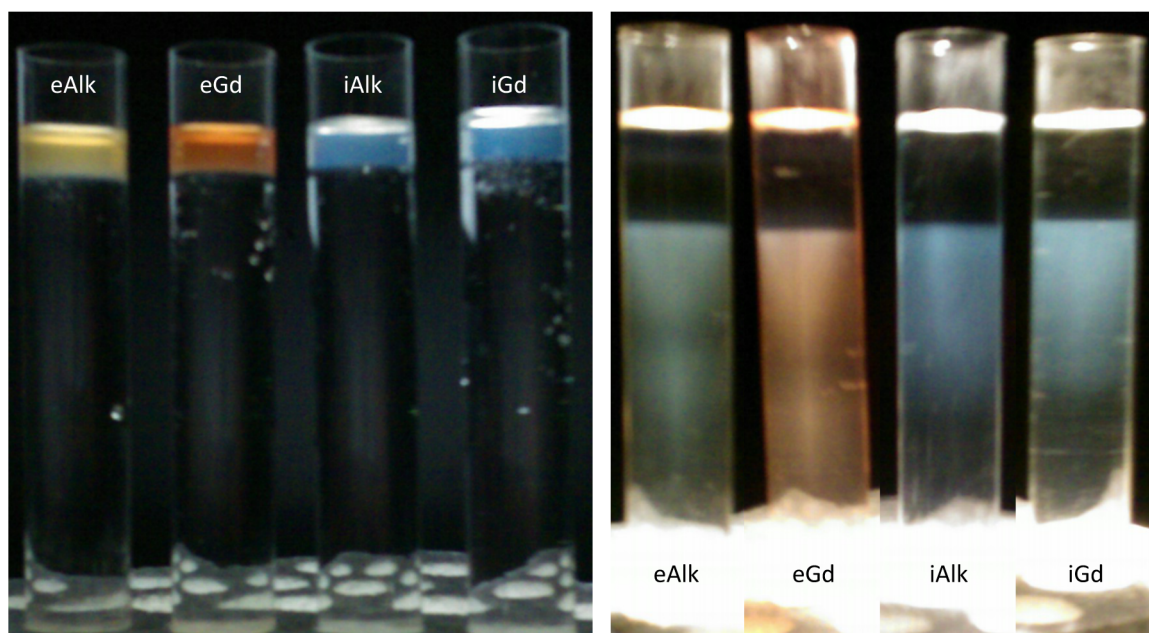
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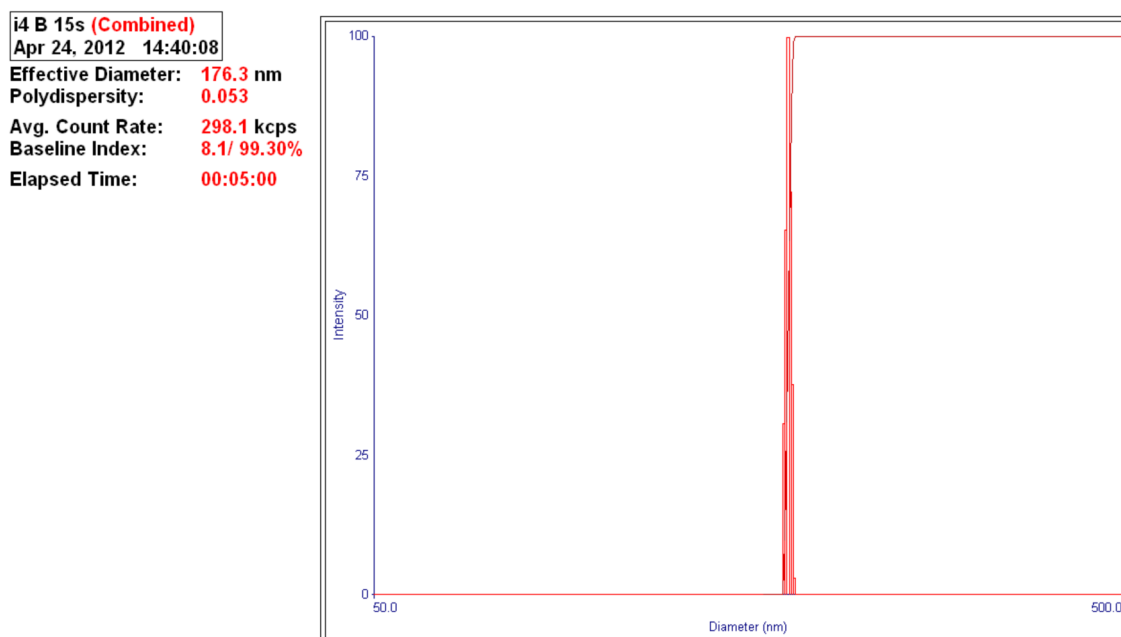
**Supporting Figure 1** TEM and SEC images of eAlk-TMV, iAlk-TMV and eGd-TMV.



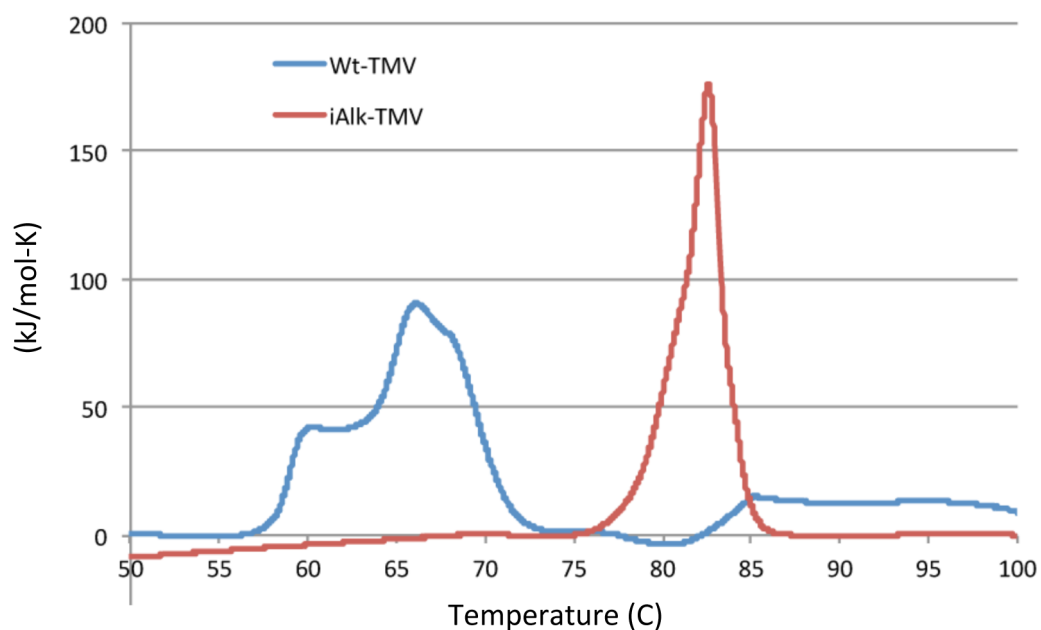
**Supporting Figure 2** MALDI-TOF MS of Native-TMV, eAlk-TMV and iAlk-TMV.



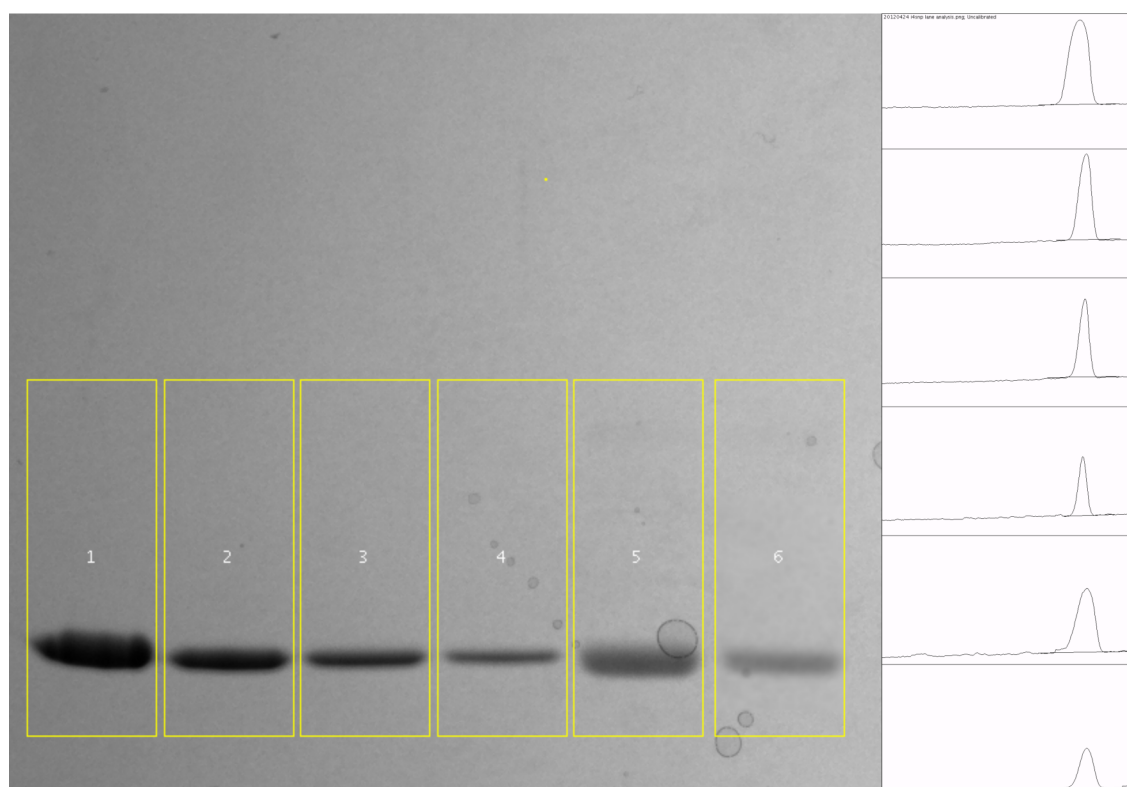
**Supporting Figure 3** Before (left) and after (right) images of sucrose gradient density purifications of (from left to right) eAlk-TMV, eGd-TMV, iAlk-TMV, and iGd-TMV.



**Supporting Figure 4** Dynamic light scattering data of iGd-SNPs formed from iGd-TMV used in this paper.

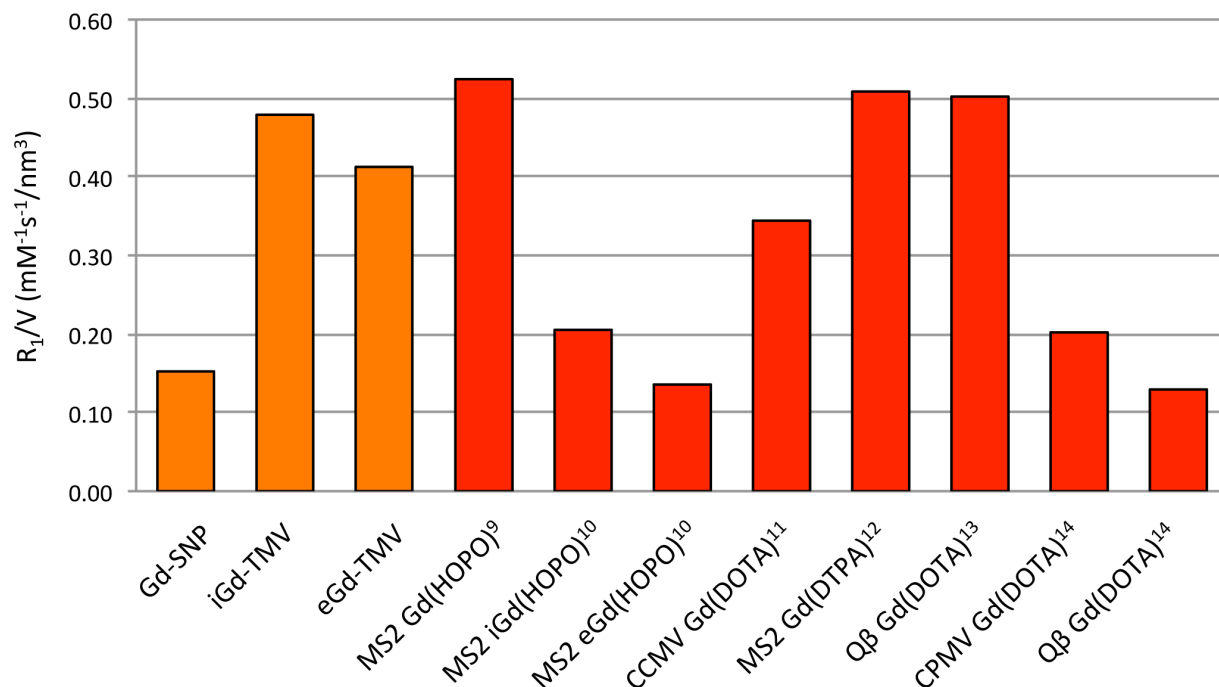


**Supporting Figure 5** NanoDSC analysis of native-TMV and iAlk-TMV showing an increase in stability of iAlk-TMV over native-TMV.



**Supporting Figure 6** SDS-PAGE of denatured TMV samples and subsequent lane analysis to determine the protein concentration of iGd-SNPs. Lane assignments: Native TMV at (1) 1.0

mg/ml, (2) 0.5 mg/ml, (3) 0.25 mg/ml, (4) 0.125 mg/ml, and iGd-SNP at (5) 2x dilution and (6) 4x dilution.



**Supporting Figure 7** Summary comparing relaxivity per volume ( $R_1/V$ ) of viral nanoparticle MRI contrast agents. References match paper order.