



**Figure 7.5** Three humanized IgG1 mAbs with the same IgG1 human Fc construct but different complementarity determining regions (CDRs) formulated identically and lyophilized using the same lyophilization process. (a) Time to reconstitute the lyophilized cake resulting in a final mAb concentration of 100 mg/mL. (b) Viscosity at 25 °C after reconstitution to a final mAb concentration of 85 mg/mL.

From [Shire et al. \(2010\)](#).

does not result in solubilization of the solute. The viscosity of the suspension vehicle should be low since the vehicle viscosity would contribute to the suspension viscosity as suggested by Einstein's equation for the viscosity of solutions ([Einstein, 1911](#)):

$$\eta = \eta_0 (1 + 2.5\phi) \quad (7.3)$$