

(16.7) In Figure 16.8, Eu(III) is more easily extracted than its homolog Am(III). Suggest an explanation.

Am(III) has a larger ionic radius than Eu(III) and ions with smaller radius and the same charge and coordination type extract better as they have a higher charge density. Both  $\text{Am}^{3+}$  and  $\text{Eu}^{3+}$  are "hard" ions, *i.e.* electrostatic effects dominate.