Calculation 1 (entropic pulling prediction of the effect of moving the Hsc70 binding on disassembly rates): De los Rios and Goloubinoff computed the difference in motional entropy between having an Hsc70 bound to an extended polypeptide up against a wall (i.e., with the center of the binding site ~8 AA from the wall) vs. an Hsc70 bound to the extended polypeptide at a very large (infinite) distance from the wall to correspond to a ~3 kcal free energy difference[17]. In +0AA clathrin cages the center of the QLMLT site is ~10 AA away from the end of the structured tripod helices, and the free energy available from moving the Hsc70 away from this position is estimated at ~2.8 kcal. For Hsc70s bound ~20 and ~35 AA away vs. far from the wall, their model estimates the free energy differences to be ~1.3 and ~0.5 kcals, respectively. Thus moving the Hsc70 from being bound close (10AA) to the cage wall vs. 20 (+10) or 35 (+25) AA away would reduce the free energy available for driving disassembly by 1.5 and 2.3 kcals, respectively. Under standard conditions a 1.3 kcal reduction in the free energy available for overcoming a transition state energy barrier would slow a reaction by a factor of 10, so the 1.5 and 2.3 kcal reductions could correspond to $10^{(1.6/1.3)}$=10- and $10^{(2.4/1.3)}$=60-fold reductions in disassembly rates, respectively.

Calculation 2 (osmotic pressure/force generated by an Hsc70 bound under a cage vertex): Consider an Hsc70 bound under the vertex of a clathrin triskelion via a short tether that constrains it to a volume element ~11 nm in diameter. A sphere 11 nm in diameter has a volume of ~7x10^{5} Å^{3} and, assuming the cage walls make a 30^{o} angle with a line normal to the vertex, the space under the vertex would occupy ~40% of that or ~2.8x10^{5} Å^{3}, and a single Hsc70 would occupy a volume of 8.5x10^{4} Å^{3}, corresponding to 400-450 mg/ml protein. A 450 mg/ml solution of albumin (MW 69 Kd) generates an osmotic pressure of ~5 atm[41], corresponding to a force of 0.5 pN/nm^{2}. Assuming that the Hsc70 generates a similar osmotic pressure on the walls of its 'vessel', then the total force on the triskelia walls (whose area will equal 3.14x(5.5 nm)^{2}=95nm^{2}) will be 0.5 pN/nm^{2}*95nm^{2}=40-45 pN. Pushing on the cage walls normal to the vertex must be balanced by pulling on the tether, lest the situation create a *perpetuum mobile*. However, pushing forces directed horizontally would lead to a net force of ~20 pN (40 pNxsine30^{o}) on the cage walls.