Table 2. Physical Parameters and Composition of an Average Synaptic Vesicle

Physical Parameters	
Density (g/ml)	1.10
Outer diameter (nm)	41.6
Inner aqueous volume (l)	19.86×10^{-21}
Number of neurotransmitter molecules (at 150 mM)	1790
Mass (g)[a]	29.6×10^{-18}
Mass (MDa)[a]	17.8
Protein:phospholipids (w:w)	1.94
Phospholipids:cholesterol (mol:mol)	1:0.8
Transmembrane domains (number/% of surface coverage)[b]	600/20.0
Protein Stoichiometry (Copies/Vesicle)	
Synaptophysin	31.5
Synaptobrevin/VAMP2	69.8
VGLUT1[c]	9.0
VGLUT2[c]	14.4
Synapsins	8.3
Syntaxin 1	6.2
SNAP-25	1.8
Synaptotagmin	15.2
Rab3A	10.3
SV2	1.7
Synaptogyrin	2.0
SCAMP1	0.8
CSP	2.8
V-ATPase[d]	1.4
NSF (hexamer)	0.2
Membrane Lipids	
Phospholipids total (number/% of surface coverage)	6992/50.4
Phosphatidylcholine	2524
Phosphatidylethanolamine (C1-ester/C1-ether)	1621/1311
Phosphatidylserine	857
Phosphatidylinositol	132
Sphingomyelin	516
Cholesterol	5663
Hexosylceramide	108

Mean values are shown.
[a] Calculated indirectly using the vesicle number and the sum of protein and lipid masses. In agreement with this result, a mass of $(26.4 \pm 5.8) \times 10^{-18}$ g was measured directly with STEM, which corresponds to 15.9 ± 3.5 MDa.

[b] Estimate; the number calculated from the proteins included in the model (Figure 4) amounts to 497 (see Table S2 for details).
[c] Corrected for the fraction of vesicles found to be positive by immunogold electron microscopy for the respective transporter.
[d] Adjusted to compensate for the loss of the V1 subunit (see text).