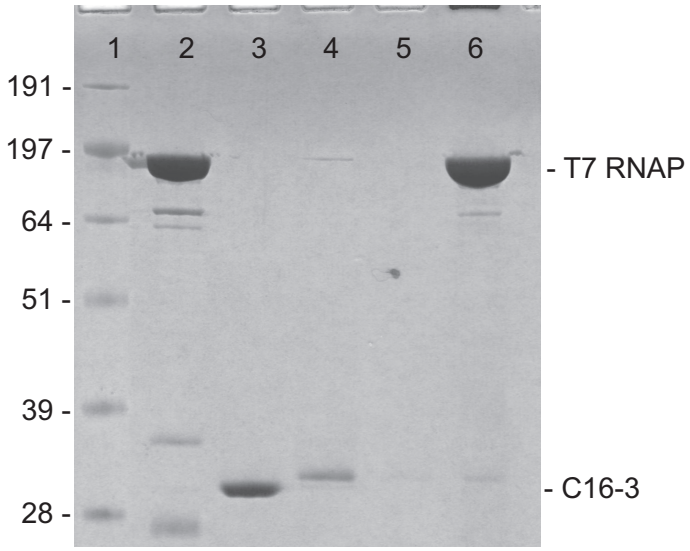

Figure S1. Biotinylated T7 RNAP is compared to a control protein which is not biotinylated (C16-3). Purified *in vivo* biotinylated T7 RNAP (lane 2) and C16-3 (lane 3) were mixed with avidin resin and filtered. A very little amount of Bio-T7 RNAP is found in the flow-through (lane 4) and none is found when washing the avidin resin (lane 5), hence, almost all T7 RNAPs were biotinylated. Based on the relative intensities, we estimated that 95-99% of the T7 RNAPs were biotinylated. Lane 6 was loaded with the proteins bound to the avidin resin; this is where the large majority of Bio-T7 RNAPs are found. Lane 1 is a molecular weight marker, weights are indicated to the left (kD).

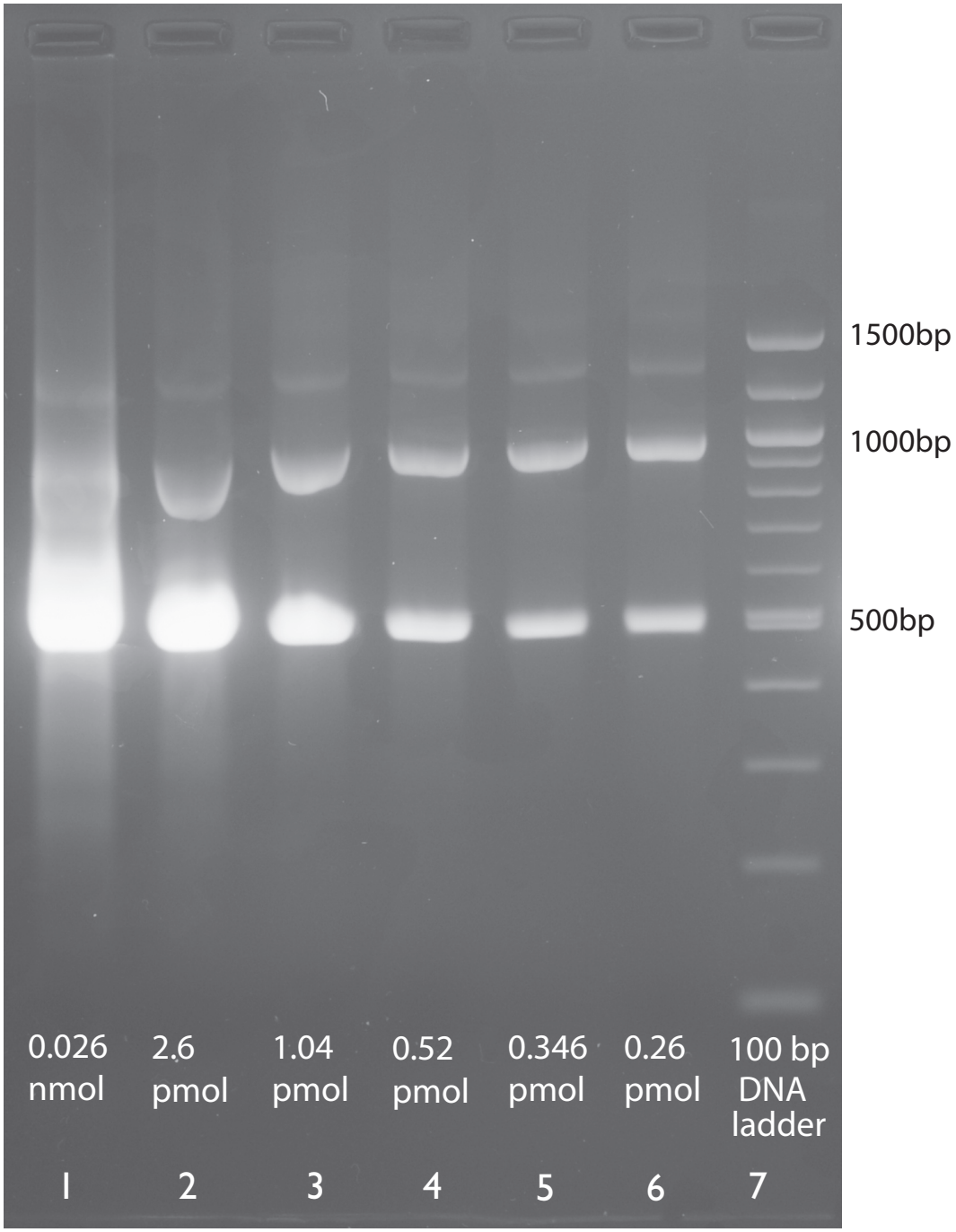

Figure S2. Activity of purified Bio-T7 RNAP. The Bio-T7 RNAP was present in the amounts: 0.026 nmol, 2.6 pmol, 1.04 pmol, 0.52 pmol, 0.346 pmol, and 0.26 pmol, respectively, with activities shown in lanes 1-6. Lane 7 is molecular weight marker, weights are indicated to the right. In the most dilute assay (lane 6) the estimated ratio was 9:1 between Bio-T7 RNAP and template DNA.

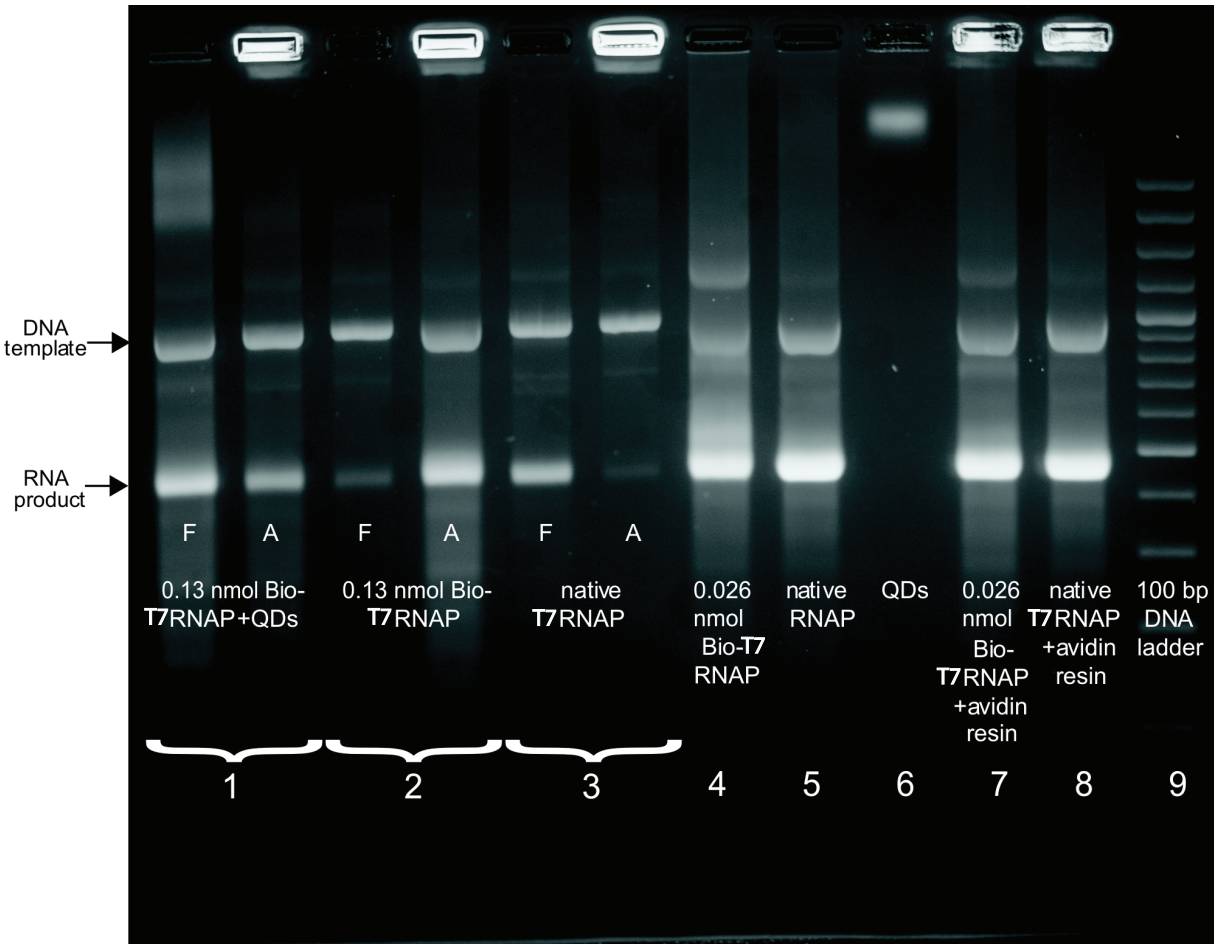

Figure S3. Lanes 1 show activity tests of the flow-through (F) and of the avidin resin (A) containing the Bio-T7 RNAPs (0.13 nmol) and QDs (0.01 nmol). Lanes 2 show the corresponding control using the same amount of Bio-T7 RNAP (0.13 nmol) but without any QDs. Lanes 3 contain native (non-biotinylated) T7 RNAP (Sigma-Aldrich, 20 units/μl), this control shows that essentially no native T7 RNAPs bound to the avidin resin (A), instead, they were collected in the flow-through (F). Lanes 4 and 5 are activity tests of 0.026 nmol non-conjugated Bio-T7 RNAP and of the native T7 RNAP, respectively. Lane 6 contains QDs. Lanes 7 and 8 are repetitions of lanes 4 and 5 with 1 μl avidin resin suspension added immediately before activity test in order to verify that the presence of the avidin resin itself, without the majority of Bio-T7 RNAPs bound, did not effect activity. Lane 9 shows a 100 bp DNA ladder. In these activity assays of conjugation mixtures, 6 μl out of a total of 60 μl eluate (F) or resin (A) were used for the reaction shown in each lane. Therefore, each maximally represents one tenth of the original amount added to the conjugation mixture. Hence, with this conservative estimate the combined activity in the conjugation experiment lane 1 F+A can be directly compared to the activity found in lane 4.

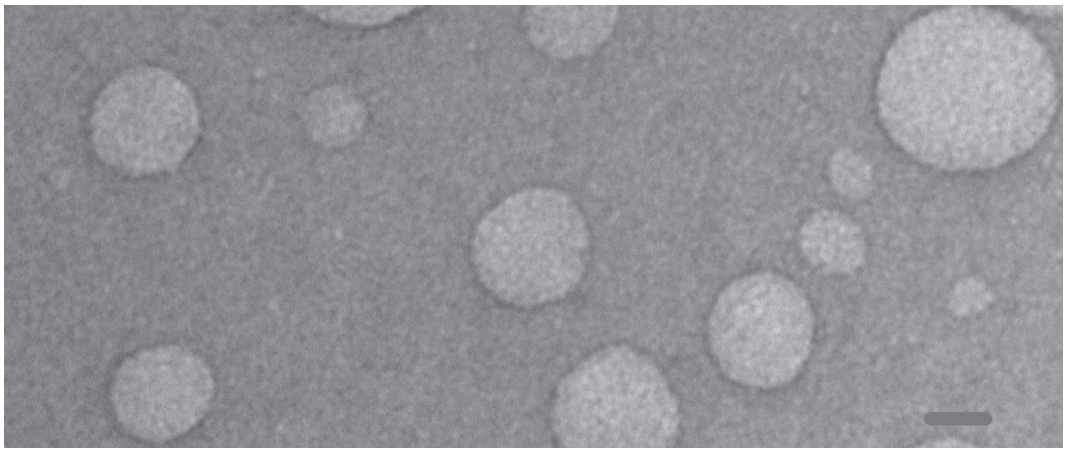

Figure S4. Transmission electron microscopy picture of QDs used in the experiments. The size distribution of the QDs is rather large ranging from less than 10 nm to above 30 nm compared to the ones used in Jauffred *et al* 2010. Both are Qdot605 (Invitrogen) but separate batches. The bar indicates 10 nm.