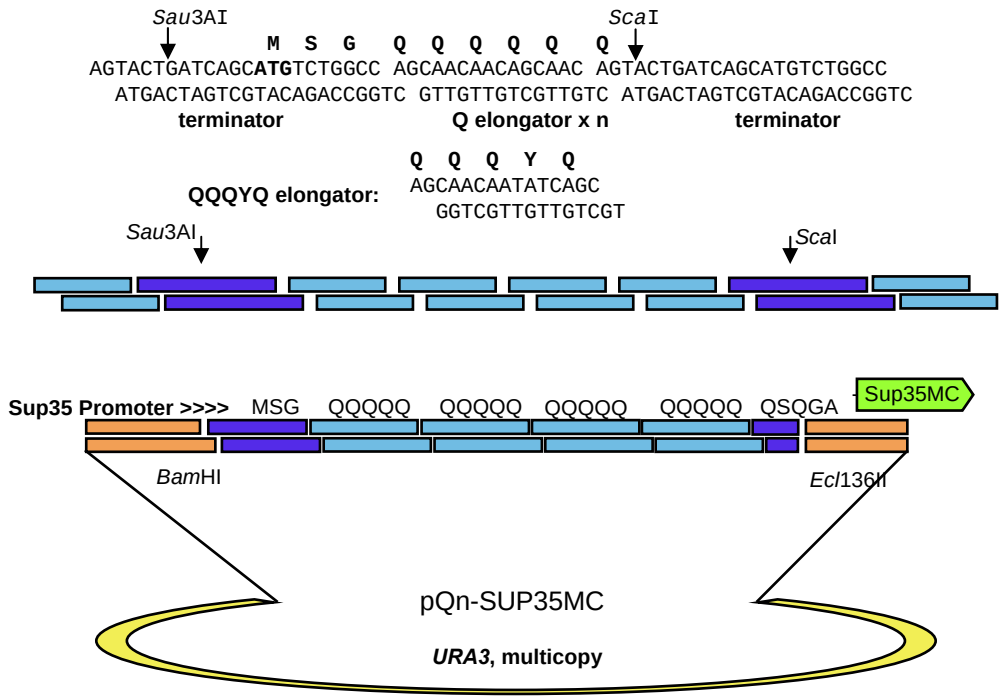
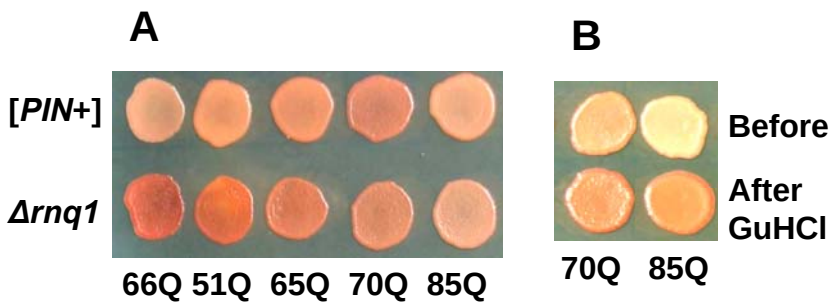


<u>Supplementary Figure 1.</u> Construction of plasmid series encoding polyQ/QY-Sup35MC fusion proteins. The plasmid series were based on pSBSE plasmid (see Materials and Methods). Polyglutamine-encoding DNA constructs were synthesized using three pairs of complementary oligonucleotides. The "terminator" pair (AGTACTGATCAGCATGTCTGGCC and CTGGCCAGACATGCTGACTAGTA) encoded start of translation and contained cloning sites *Sau*3AI and *Sca*I. "Elongator" pairs (AGCAACAACAGCAAC and CTGTTGCTGTTGTTG; AGCAACAATATCAAC and CTGTTGATATTGTTG) encoded 5 glutamines (QQQQQ) or QQQYQ sequence. Every pair formed a duplex with protruding complementary 5'-AG and 5'-CT ends. Each elongator pair was mixed with terminator pair in a 10:1 proportion. The mix was treated with kinase, and then ligated, resulting in long poly-oligomers with random distance between terminator fragments. Ligated DNA was cut with *Sau*3AI and *Sca*I, size fractionated on agarose gel and ligated to *Bam*HI and *Ecl*136II sites of pSBSE plasmid. This would create a fusion of synthetic polyglutamine-encoding fragment to Sup35MC domains encoded by the plasmid. Ligation mix was used to transform *E. coli*. Clones of transformants were tested by PCR for the length of polyglutamine-encoding insert. Selected clones were verified by sequencing of the inserts. In this way, we obtained series of multicopy yeast plasmids pnQ/QY-Sup35MC expressing fusion proteins with a sequence: MSG-(QQQ[Q/Y]Q)m-QSQGA-(Sup35MC). Surprisingly, some plasmids encoded proteins MSG-(QQQ[Q/Y]Q)m-<u>P</u>QGA-(Sup35MC) with P instead of QS. These constructs were also used for studies, since the difference does not appear significant.



Supplementary Figure 2. Changes of cell phenotypes related to altered polymerization of polyQ hybrid proteins. Cell were grown on YPD-red medium. (A) In [*PIN*+] cells producing indicated polyQ proteins, [*PIN*+] was eliminated by disruption of the *RNQ1* gene (Δ). (B) In the *Δrnq1* cells containing polymers of the 70Q and 85Q proteins, the polymers were eliminated by growing single cells into colonies in the presence of 3mM GuHCl.