Supplementary Table 1. **Lag times, elongation rates and fibril yield for αSyn variants.**

The rates of aggregation in each condition were measured in at least triplicate. The errors show the standard deviation of the mean of the replicates. No aggregation after 100 h incubation is indicated by "-". Given errors in estimating fibril yields via SDS PAGE subsequent to centrifugation (see Methods) gels, the values were rounded to the nearest 10%.

αSyn variant	WT				ΔP1			
pH	4.5		7.5		4.5		7.5	
Salt	20	200	20	200	20	200	20	200
Lag time [h]	4.0 ± 0.5	11.4 ± 1.9	49.7 ± 7.2	61.3 ± 9.8	4.1 ± 0.5	19.5 ± 3.0	-	-
Elongation rate [RFU/h]	35.6 ± 4.8	33.2 ± 2.5	1.7 ± 0.2	3.6 ± 0.2	30.1 ± 9.4	16.4 ± 3.4	-	-
Fibril yield [% insoluble]	90	90	100	100	100	100	0	0
αSyn variant	**ΔP2**				**ΔΔ**			
pH	4.5		7.5		4.5		7.5	
Salt	20	200	20	200	20	200	20	200
Lag time [h]	4.8 ± 0.4	14.2 ± 0.5	36.2 ±1.7	45.4 ± 16.3	57.3 ± 3.6	-	-	-
Elongation rate [RFU/h]	44.2 ± 8.8	6.8 ± 1.8	2.3 ± 0.6	5.8 ± 0.7	22.9 ± 5.5	-	-	-
Fibril yield [% insoluble]	100	100	80	100	90	30	20	30
αSyn variant	**ΔC1**				**P1P2-GS**			
pH	4.5		7.5		4.5		7.5	
Salt	20	200	20	200	20	200	20	200
Lag time [h]	0.47 ± 0.07	3.1 ± 0.1	20.5 ± 0.7	43.2 ± 4.3	11.4 ± 3.0	82.8 ± 12.7	-	-
Elongation rate [RFU/h]	28.8 ± 11.0	38.3 ± 1.3	12.6 ± 1.4	19.6 ± 4.9	0.12 ± 0.03	0.06 ± 0.01	-	-
Fibril yield [% insoluble]	90	90	80	70	70	20	0	0

αSyn variant	Seeding with WT				Liposome		
Condition	pH 7.5, 200 mM NaCl				pH 6.5		
Monomer	WT	ΔP1	ΔP2	ΔΔ	WT	ΔΔ	P1P2-GS
Lag time [h]	-0.89 ± 0.47	-	24.5 ± 1.8	-	4.9 ± 0.3	93.0 ± 2.6	-
Elongation rate [RFU/h]	24.0 ± 4.3	-	7.2 ± 0.7	-	5.7 ± 0.2	4.8 ± 0.3	-

αSyn variant	V40C		V52C		A140C	
Condition	pH 4.5, 200 mM NaCl		pH 4.5, 200 mM NaCl		pH 4.5, 200 mM NaCl	
State	monomer	dimer	monomer	dimer	monomer	dimer
Lag time [h]	17.1 ± 0.9	-	6.9 ± 1.3	27.9 ± 2.7	12.7 ± 1.1	11.2 ± 2.0
Elongation rate [RFU/h]	18.1 ± 2.5	-	10.2 ± 0.4	5.7 ± 1.7	10.0 ± 1.4	9.0 ± 0.2