

## Supplementary Information

### Calculating Resin Functionalization in Solid-Phase Peptide Synthesis Using a Standardized Method based on Fmoc Determination

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**Table S1.** Stability of analytical solution (freshly prepared vs. one day old at rt).

No.	Fmoc-Amino acid	Fresh reading	After 1 day	% Difference
1	Gly	1.763	1.908	8.2
2	Ala	1.764	2.144	21.5
3	Ser	1.854	2.152	16.1
4	Thr	1.992	2.263	13.6
5	Cys	0.817	1.635	22.4
6	Phe	1.370	1.792	30.8
7	Val	2.184	2.382	9.1
8	Trp	1.297	1.508	16.3
9	His	0.746	1.635	14.7
10	Leu	1.451	1.602	10.4
11	Lys	1.493	1.641	9.9
12	Ile	1.539	1.749	13.6
13	Tyr	1.695	1.913	12.9
14	Pro	1.655	1.679	1.5
15	Met	2.068	2.347	13.5
16	Glu	1.912	2.085	9.0
17	Gln	0.918	1.299	41.5
18	Arg	0.900	1.053	17.0

## **Experimental details**

### **Materials and methods**

All reagents and solvents were obtained from commercial suppliers and were used without further purification unless otherwise stated. UV tests were performed on Shimadzu UV3600 spectrophotometer.

### **Incorporation procedure**

All the selected Fmoc-amino acids were incorporated separately onto the Wang resin by  $\text{CH}_2\text{Cl}_2$ .

A known amount of Wang resin (Purolite) was swollen in the corresponding solvent for 10-20 min, and then 5 equiv. of each Fmoc-amino acid was dissolved in a minimum amount of  $\text{CH}_2\text{Cl}_2$  (0.5 mL/50 mg resin) and sonicated for 10 min, and then 0.25 equiv. of DMAP was added to the previously swollen resin. Then, the Fmoc-amino acid solution was added to it (resin + DMAP). Finally, 2.5 equiv. of DIC was added to the resin mixture. The resulting mixture was allowed to react under mechanical shaking for 1 h at rt. Immediately after, the resin was washed twice with  $\text{CH}_2\text{Cl}_2$ . A capping solution consisting of acetic anhydride and DIEA (10:20) equiv. was then added to endcap any unreacted hydroxyl groups of the Wang resin and allowed to react for 30 min under mechanical shaking. Finally, the resin was washed twice with  $\text{CH}_2\text{Cl}_2$  and dried under vacuum.