

Supplementary Information

Investigating the impact of an inbuilt Cold Atmospheric Pressure Plasma on molecular assemblies of Tryptophan enantiomers: *in vitro* fabrication of self-assembled supramolecular structures

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Table S1 – Particle size distribution of L-Trp

| Treatment time (min) | pdi | Size (r) (nm) | | % intensity | Width (nm) | Z-average (r) (nm) |
|----------------------|-------|---------------|--------|-------------|------------|--------------------|
| L-Trp Control | 1 | Peak 1 | 193 | 100 | 10.48 | 1181 |
| | | | | | | |
| L-Trp 5 | 0.804 | Peak 1 | 359.4 | 100 | 60.83 | 725.9 |
| | | | | | | |
| L-Trp 10 | 1 | Peak 1 | 295.7 | 98.3 | 187.2 | 578 |
| | | Peak 2 | 0.6912 | 6.4 | 0.05066 | |
| | | Peak 3 | 130.5 | 2.6 | 14.33 | |

Table S2- Particle Size distribution of D-Trp

| Treatment time (min) | pdi | Size (r) (nm) | | % intensity | Width (nm) | Z-average (r) (nm) |
|----------------------|-------|---------------|--------|-------------|--------------------------|--------------------|
| D-Trp Control | 1 | Peak 1 | 265.5 | 100 | 28.33 | 710.8 |
| | | | | | | |
| D-Trp 5 | 0.739 | Peak 1 | 258 | 57 | 61.08 | 565.3 |
| | | Peak 2 | 892.6 | 26.8 | 208.1 | |
| | | Peak 3 | 2602 | 16.3 | 237.1 | |
| | | | | | | |
| D-Trp 10 | 0.865 | Peak 1 | 164.2 | 90.4 | 21.54 | 348.1 |
| | | Peak 2 | 0.8678 | 9.6 | 1.054 x 10 ⁻⁸ | |

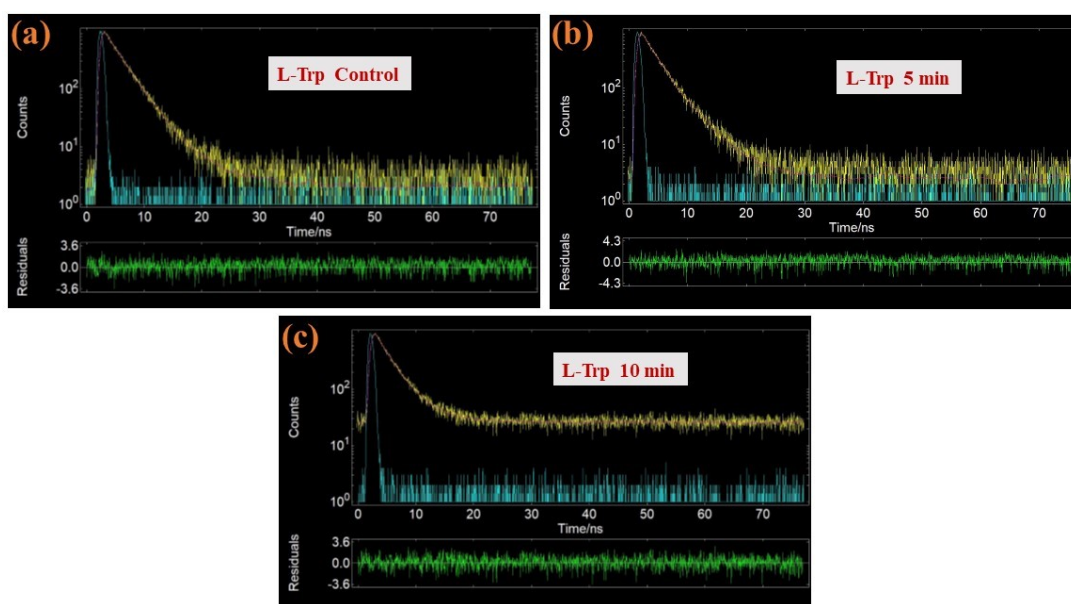


Fig S1: Fitted time resolved spectra of (a) control, (b) 5 min and (c) 10 min CAPP treated L-Trp.

Table S3 - Lifetime of L-Trp at different time of plasma treatment

| Treatment time (Min) | τ_1 (ns) | % population | τ_2 (ns) | % population |
|----------------------|---------------------|--------------|---------------------|--------------|
| 0 | 2.7099 ± 0.0407 | 92.15 | 6.7070 ± 0.9235 | 7.85 |
| 5 | 1.9865 ± 0.1089 | 50.93 | 3.8606 ± 0.1719 | 49.07 |
| 10 | 2.2527 ± 0.0819 | 76.07 | 4.4263 ± 0.7310 | 23.93 |

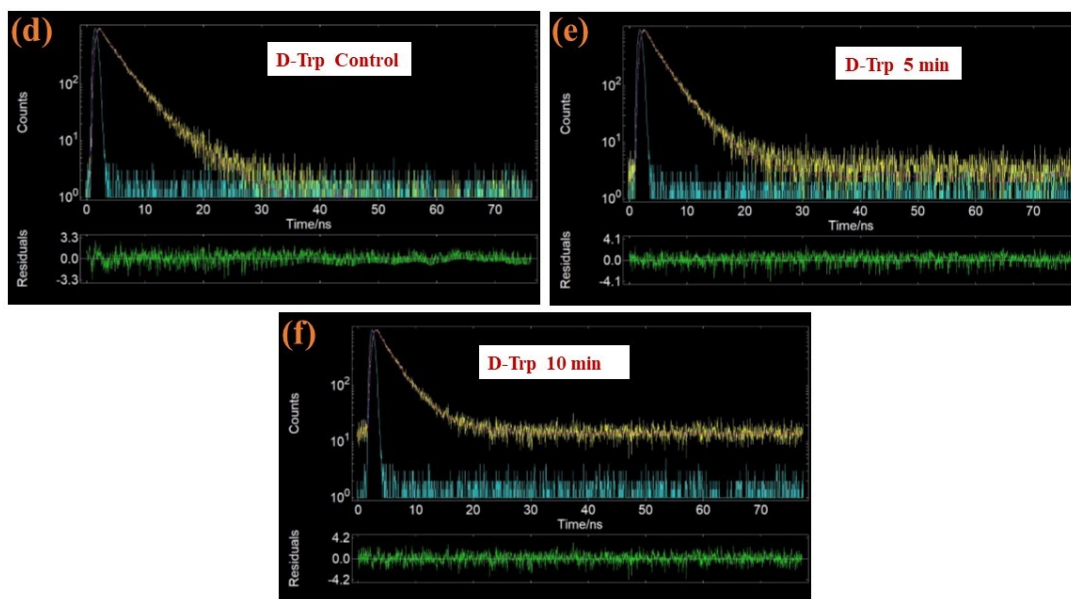


Fig S2: Fitted time resolved spectra of (d) control, (e) 5 min and (f) 10 min and CAPP treated D-Trp.

Table S4 - Lifetime of D-Trp at different time of plasma treatment

| Treatment Time (min) | τ_1 (ns) | % population | τ_2 (ns) | % population |
|----------------------|---------------|--------------|----------------|--------------|
| 0 | 2.5053±0.0589 | 74.19 | 5.4414±0.26696 | 25.81 |
| 5 | 2.0604±0.0866 | 60.17 | 4.0973±0.2023 | 39.83 |
| 10 | 2.0753±0.1217 | 61.78 | 3.9738±0.3358 | 38.22 |

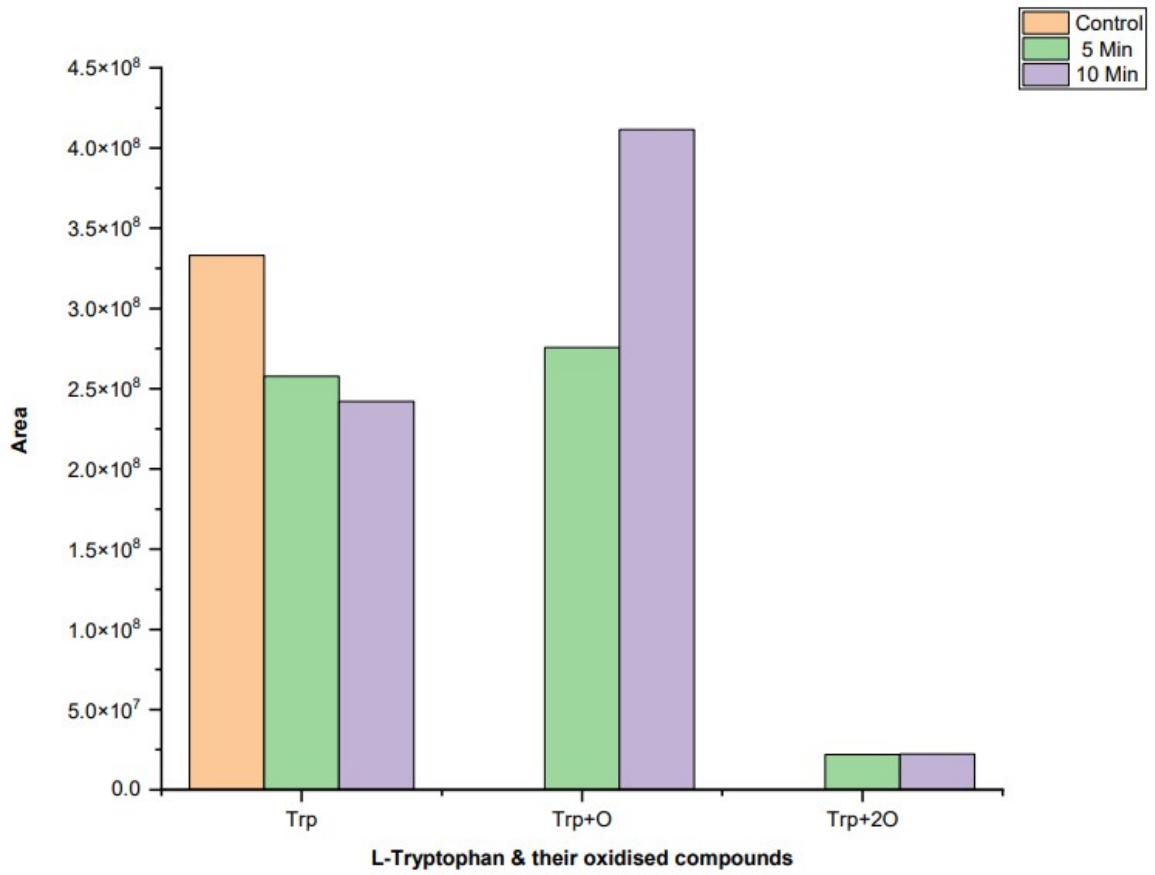


Figure S3: Statistical representation of population of observed mass of L-Trp and its hydroxylated products after CAPP treatment.

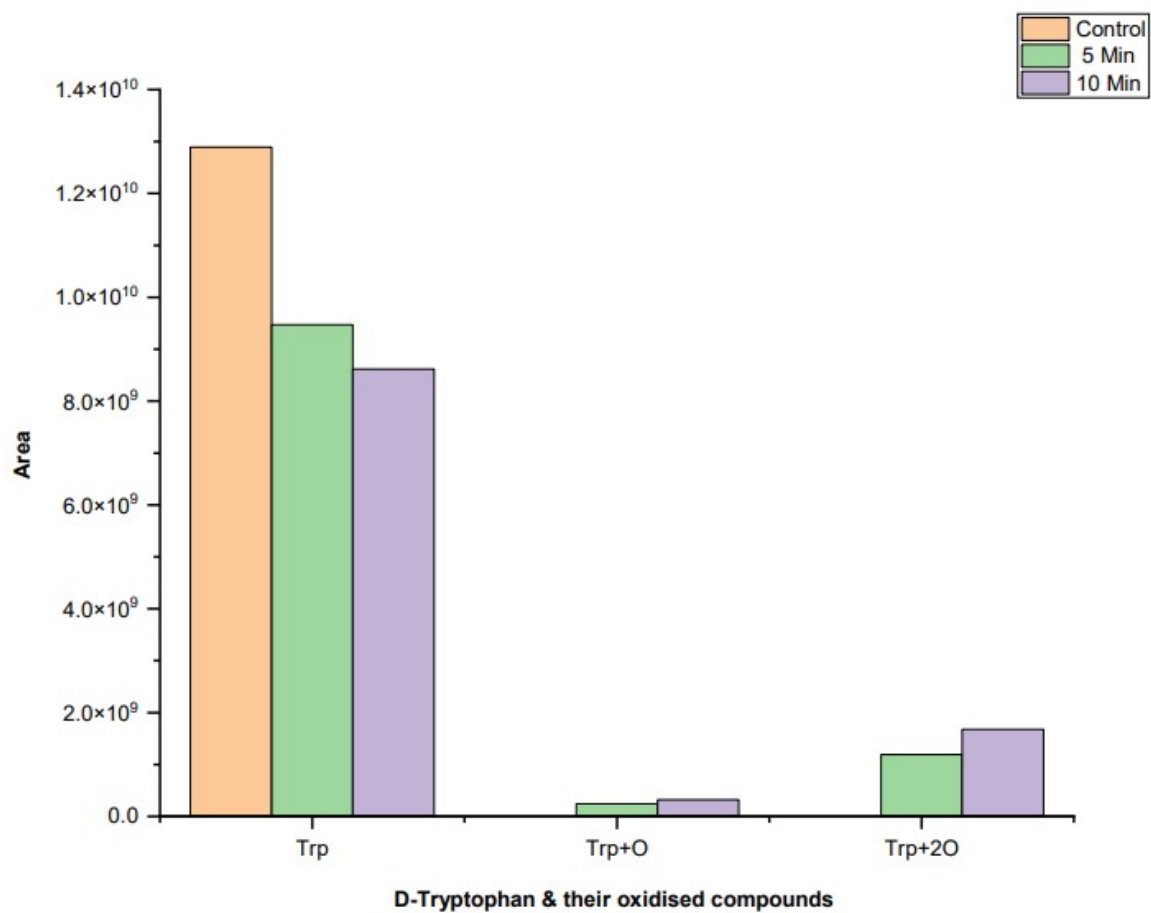


Figure S4: Statistical representation of population of observed mass of D-Trp and its hydroxylated products after CAPP treatment.