

Supporting Information

Adsorption experiment method

To assess the carbamazepine and CNTs interactions without *B. oleracea*, the containers were replaced with well-sealed 80 ml glass bottles. In 80-ml jars, the nutrient solution was initially mixed with 100 µg/L carbamazepine and 50 mg/L CNTs. The aqueous phase was sampled at 2, 6, 12, 16, 24, 72 and 144 h. Similarly, to assess the effect of plant presence on carbamazepine-CNTs interactions, another group of 80 ml glass bottles were planted with seedlings. Though nutrient solution consumption of *B. oleracea* was negligible in first 24 h, the volume was monitored by weighing the containers every 8 h and the containers were restored to initial conditions with distilled water. The aqueous phase in the presence of plants was sampled at the intervals mentioned above.

Table S1. The bioconcentration factors (BCF)^a and transfer factors (TF) of carbamazepine in *B. oleracea* with co-exposure of additional carbon materials.

Treatment	Hydroponics			Soil		
	TF ^b	Root	Leaf	TF	Root	Leaf
	(root to leaf)	BCF ^b	BCF	(root to leaf)	BCF	BCF
carbamazepine only	24.43 (31.24)	0.86 (0.67)	20.99	8.74	0.26	2.25
pCNTs + carbamazepine	2.49 (12.83)	6.62 (1.28)	16.48	8.49	0.19	1.65
cCNTs + carbamazepine	3.47 (14.13)	3.54 (0.87)	12.29	11.70	0.16	1.89
AC + carbamazepine	0.24	6.05	1.48	7.67	0.07	0.53

^a Bioaccumulation factor was calculated based on the ratio of relative uptake of carbamazepine in plant tissues to the concentration of carbamazepine fortified in exposure media.

^b Values in brackets were corrected based on the concentrations in surfactant-washed root.

Table S2 carbamazepine bioaccumulation in absolute amount (μg) in soil-grown *B. oleracea* tissues.

Treatment	Leaf Content	Root Content	Total Content
carbamazepine only	18.77 \pm 2.88 A	0.90 \pm 0.19 A	19.55 \pm 3.11 A
pCNTs + carbamazepine	12.57 \pm 3.30 B	0.64 \pm 0.14 B	14.10 \pm 2.48 B
cCNTs + carbamazepine	13.45 \pm 1.42 B	0.42 \pm 0.16 C	13.86 \pm 1.53 B
AC + carbamazepine	2.75 \pm 0.44 C	0.10 \pm 0.01 D	2.86 \pm 0.44 C