



Supplementary Fig. 1. The HPLC profile of carotenoids separated from the samples initially containing spinach puree and either buffer solutions or excipient emulsions with different oil phases following exposure to different GIT regions.

Note: In the HPLC profile of each sample, the pink line represents the initial systems, the black line represents the sample passing through the simulated mouth stage, the blue line represents the sample passing through the simulated stomach stage, the green line represents the sample passing through the simulated small intestine stage and the red line represents the micelle fraction. These samples were diluted in the process of simulated GIT digestion. The final extractions of the samples from the initial, mouth,

stomach and small intestine phases were diluted to 2 mL prior to injection into an HPLC system; the final extractions of the micelle fraction from the samples initially containing spinach puree and either buffer solution or excipient emulsion with MCT and coconut oils were diluted to 2 mL prior to injection into an HPLC system; the final extractions of the micelle fraction from the samples initially containing spinach puree and excipient emulsions with corn, olive, fish or mixed MCT-corn oil phases were diluted to 1 mL prior to injection into an HPLC system.