Determination of 2-alkylcyclobutanones by combining precolumn derivatization with 1-naphthalenyl hydrazine and ultra-performance liquid chromatography with fluorescence detection

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**Fig. S1** Fluorescence (A) excitation and (B) emission spectra of the naphthalenyl tagged 2-DCB and 2-TCB.
Fig. S2 Influence of (A) reaction time, (B) reaction temperature, (C) the molar ratios of 1-NH over 2-DCB on the derivatization reaction between 1-naphthylhydrazine and 2-DCB, and (D) acetic acid content in reaction medium
Fig. S3 Chromatograms obtained from UPLC–FLD analyses of blank sample extract and blank sample extract spiked with 2-ACBs standard mixture at around their LOD levels (2-DCB, 3.0 ng/g fat and 2-TCB, 2.0 ng/g fat)
**Fig. S4** Comparison of (A) 2-DCB and (B) 2-TCB concentrations in γ-irradiated chicken samples measured by LC–MS/MS method against the UPLC–FLD method.