pharmaceutics

Supplementary Materials: PEGylated Chitosan Nanoparticles Encapsulating Ascorbic Acid and Oxaliplatin Exhibit Dramatic Apoptotic Effects against Breast Cancer Cells

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1. Method Validation

1.1. Linearity

Linear relationships were obtained between the peak areas and the corresponding concentrations of each component in the range of 5.00 – 100.00 µg/ mL for both VIT C and OXA. A calibration curve was constructed for each drug by plotting concentration (C) against the peak area (PA) as in Figure S1. The regression equations were computed eq 1 and 2 and regression coefficient was determined. LOD and LOQ was 1.7 and 5 µg/mL for OXA.

$\mathbf{PA}_{\text{VIT C}} = 80.624x + 17.79$; $R^2 = 0.9985$, (1)

$\mathbf{PA}_{\text{OXA}} = 7.2214x + 3.1358$, $R^2 = 0.9998$, (2)

Where (PA) is the peak area, (C) is the concentration in µg/mL and (R^2) is the regression coefficient.

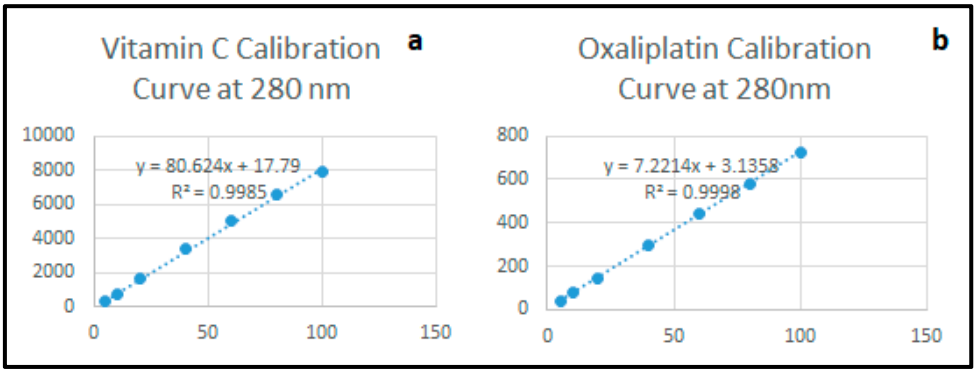

Figure S1. Calibration curves of (**a**) AA, (**b**) OX over the concentration range of 5-100 µg/mL.

1.2. Selectivity/Specificity

Specificity was tested by achieving complete baseline separation between the 2 analytes as shown in Figure S2 with good resolution compared to individual stock solution measurement.

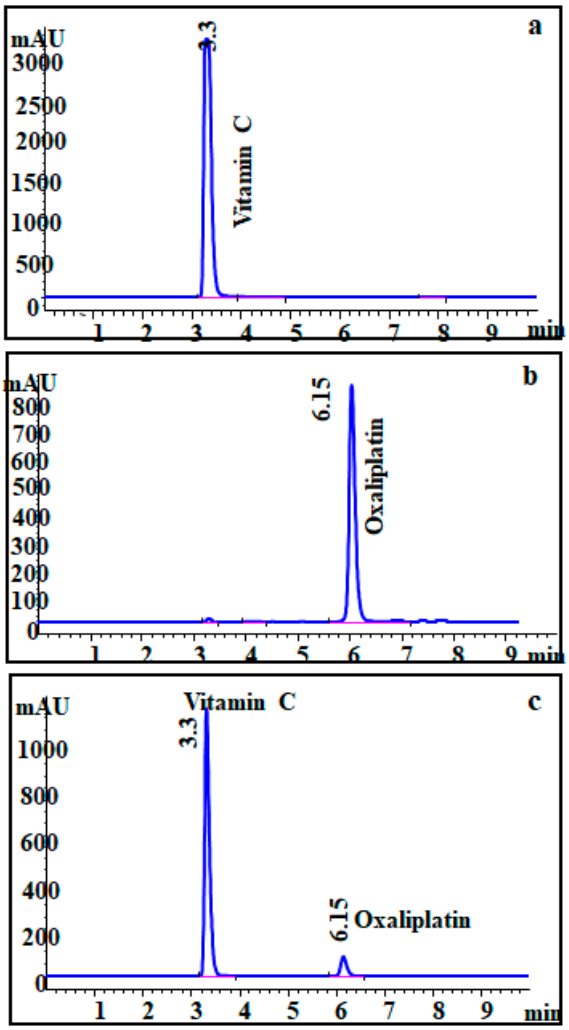

Figure S2. UHPLC chromatogram of 1µL injection of (**a**) AA (500µg/mL), (**b**) OX (1000µg/mL) and (**c**) Lab prepared mixture of AA and OX (100µg/mL).

1.3. Accuracy

The accuracy of the investigated method was validated by analyzing pure samples of both AA and OX with concentrations of 20, 40, 60 µg/mL with good results of Mean ±S.D. equals 102.56 ±1.20 & 100.35 ±1.18 for AA and OX, respectively.