

Supporting information

**Preparation and Drug Loading Properties of Amphoteric Cassava Starch
Nanoparticles**

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S1. Effects of initial concentration of PTX (c_0) on the equilibrium adsorption capacity and encapsulation efficiency

| $c_0(\text{mg}\cdot\text{L}^{-1})$ | $c_e(\text{mg}\cdot\text{L}^{-1})$ | $q_e(\text{mg}\cdot\text{g}^{-1})$ | encapsulation efficiency (%) |
|------------------------------------|------------------------------------|------------------------------------|------------------------------|
| 40 | 18.94 | 21.06 | 52.65 |
| 70 | 43.22 | 26.78 | 38.26 |
| 100 | 67.93 | 32.07 | 32.07 |
| 130 | 95.57 | 34.43 | 26.48 |
| 160 | 124.98 | 35.02 | 21.89 |

S2. The parameters fitting results of Langmuir and Freundlich isotherm adsorption equations

| Model | $q_m(\text{mg}\cdot\text{g}^{-1})$ | $K_L(\times 10^{-2}\text{L}\cdot\text{mg}^{-1})$ | n | K_f | R^2 |
|------------|------------------------------------|--|------|-------|--------|
| Langmuir | 40.67 | 5.23 | 3.51 | 9.22 | 0.9974 |
| Freundlich | | | | | 0.9771 |

S3. The parameter fitting results of Ritger-Peppas release kinetic equation

| pH | K_H | n | R^2 |
|------|-------|------|--------|
| 7 | 8.99 | 0.32 | 0.9952 |
| 6 | 9.29 | 0.35 | 0.9991 |
| 5 | 8.61 | 0.45 | 0.9906 |
| 4 | 9.53 | 0.47 | 0.9928 |