Synthesis and activation of pH-sensitive Metal-Organic Framework Sr(BDC) ∞ for oral drug delivery

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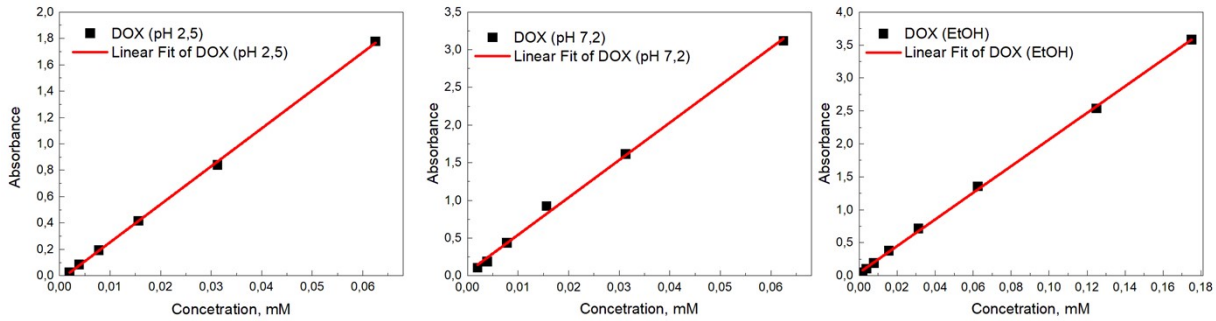
S1. Materials

N,N-Dimethylformamide (DMF) solvent (anhydrous, 99.8%) was purchased from Sigma- Aldrich Inc (USA); Strontium chloride hexahydrate (ACS reagent, 99%) was purchased from Sigma-Aldrich Inc (USA); Ethyl alcohol, Pure (200 proof, ACS reagent, ≥995%) Sigma-Aldrich Inc (USA); Terephthalic acid, 98% manufacturer Acros Organics; MTT Formazan (1-(4,5-Dimethylthiazol-2-yl)-3,5-diphenylformazan, powder) Sigma-Aldrich Inc (USA); Dimethyl sulfoxide (for molecular biology, ≥99.9%) Sigma-Aldrich Inc (USA); Doxorubicin- Teva (ATX code: L01DB01) Teva Pharmaceutical Industries, Ltd (Israel).

Ethylenediaminetetraacetic acid (EDTA) was purchased from Serva (Germany), 3-(4,5-dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrasolium bromide (MTT) (Sigma–Aldrich, USA); 96% ethanol (Chimmed, Moscow, Russia); Dulbecco's modified Eagle's medium (DMEM) (Gibco, USA); fetal bovine serum (FBS) (Gibco, USA); phosphate buffered saline (PBS) (PanEco, Russia); dimethyl sulfoxide (DMSO) (Amresco, USA); 0.02% EDTA and 0.05% trypsin solutions (Gibco, USA); gentamycin (PanEco, Russia), Annexin V-FITC/PI kit was purchased from Biolegend (USA).

S2. DOX encapsulation in SR(BDC)



Equation	y = a + b*x
Slope	28,81835 ± 0,2
Pearson's r	0,9998
Intercept	-0,03518 ± 0,00
R-Square (COD)	0,99961
Residual Sum of Sq	8,73869E-4

Equation	y = a + b*x
Slope	49,64117 ± 1,2
Pearson's r	0,99878
Intercept	0,04608 ± 0,03
R-Square (COD)	0,99756
Residual Sum of Sq	0,01615

Equation	y = a + b*x
Slope	20,20702 ± 0,1
Pearson's r	0,99972
Intercept	0,04509 ± 0,01
R-Square (COD)	0,99944
Residual Sum of Sq	0,00664

Figure S1. Calibration graph for the determination of doxorubicin in various media (gastric juice (pH - 2.5), intestinal fluid (pH - 7.2), and in ethanol)

S3. Pore size

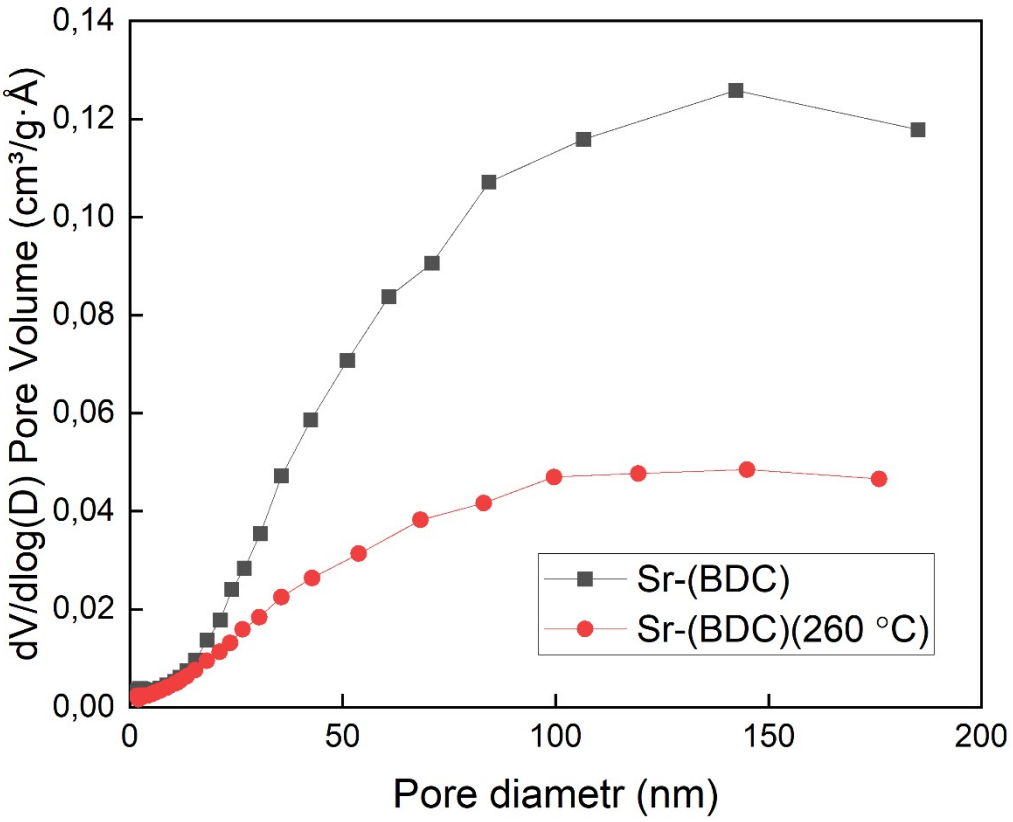


Figure S2. Pore size distribution of MOF Sr-(BDC), Sr-(BDC)(260 °C)