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Supporting Information

for

Silver nanoparticles loaded on lactose/alginate: in situ synthesis, catalytic degradation, and pH-dependent antibacterial activity

Nguyen Thi Thanh Tu, T. Lan-Anh Vo, T. Thu-Trang Ho, Kim-Phuong T. Dang, Van-Dung Le, Phan Nhat Minh, Chi-Hien Dang, Vinh-Thien Tran, Van-Su Dang, Tran Thi Kim Chi, Hieu Vu-Quang, Radek Fajgar, Thi-Lan-Huong Nguyen, Van-Dat Doan and Thanh-Danh Nguyen

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Additional experimental data

Table S1: Physical parameters calculated from XRD patterns.

Materials	**No.**	**2θ (degree)**	**cos θ**	**FWHM (Degree)**	**β (radian)**	**Crystallite size 'D' (µm)**	**Interplanar spacing *d* (Å)**	***h k l* Identified from peak**	**$h^2+k^2+l^2$**	**Lattice const. *a* from *d* (Å)**	**Cell volume (Å³)**
AgNPs@Lac/Alg-0.3	1	38.8347	0.3389	0.9431	0.48	0.008378	17.5487	2.3759	1 1 1	3	4.1152
	2	44.5260	0.3886	0.9254	0.41	0.007156	20.9371	2.0332	2 0 0	4	4.0664
	3	64.2130	0.5604	0.8470	0.62	0.010821	15.1268	1.4493	2 2 0	8	4.0993
	4	77.4092	0.6755	0.7803	0.66	0.011519	15.4243	1.2319	3 1 1	11	4.0857
AgNPs@Lac/Alg-0.7	1	38.0153	0.3317	0.9454	0.48	0.008377	17.5050	2.3651	1 1 1	3	4.0965
	2	44.5010	0.3883	0.9255	0.54	0.009424	15.8952	2.0343	2 0 0	4	4.0686
	3	64.1030	0.5594	0.8476	0.80	0.013962	11.7162	1.4515	2 2 0	8	4.1055
	4	77.3992	0.6754	0.7804	0.72	0.012566	14.1379	1.2320	3 1 1	11	4.0861

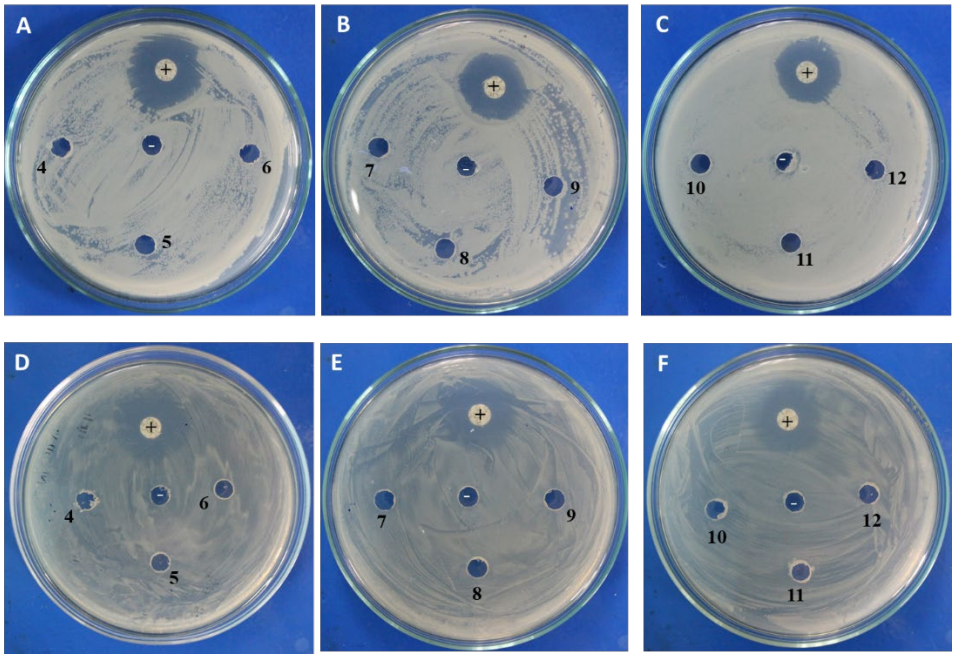

Figure S1: Antibacterial activity of controls with indicated pH value without nanocomposite. The controls exhibit no inhibition against both bacterial strains.