Electronic Supplementary Material

A novel nanoparticle loaded with methyl caffeate and caffeic acid phenethyl ester against plant pathogenic bacteria *Ralstonia solanacearum*

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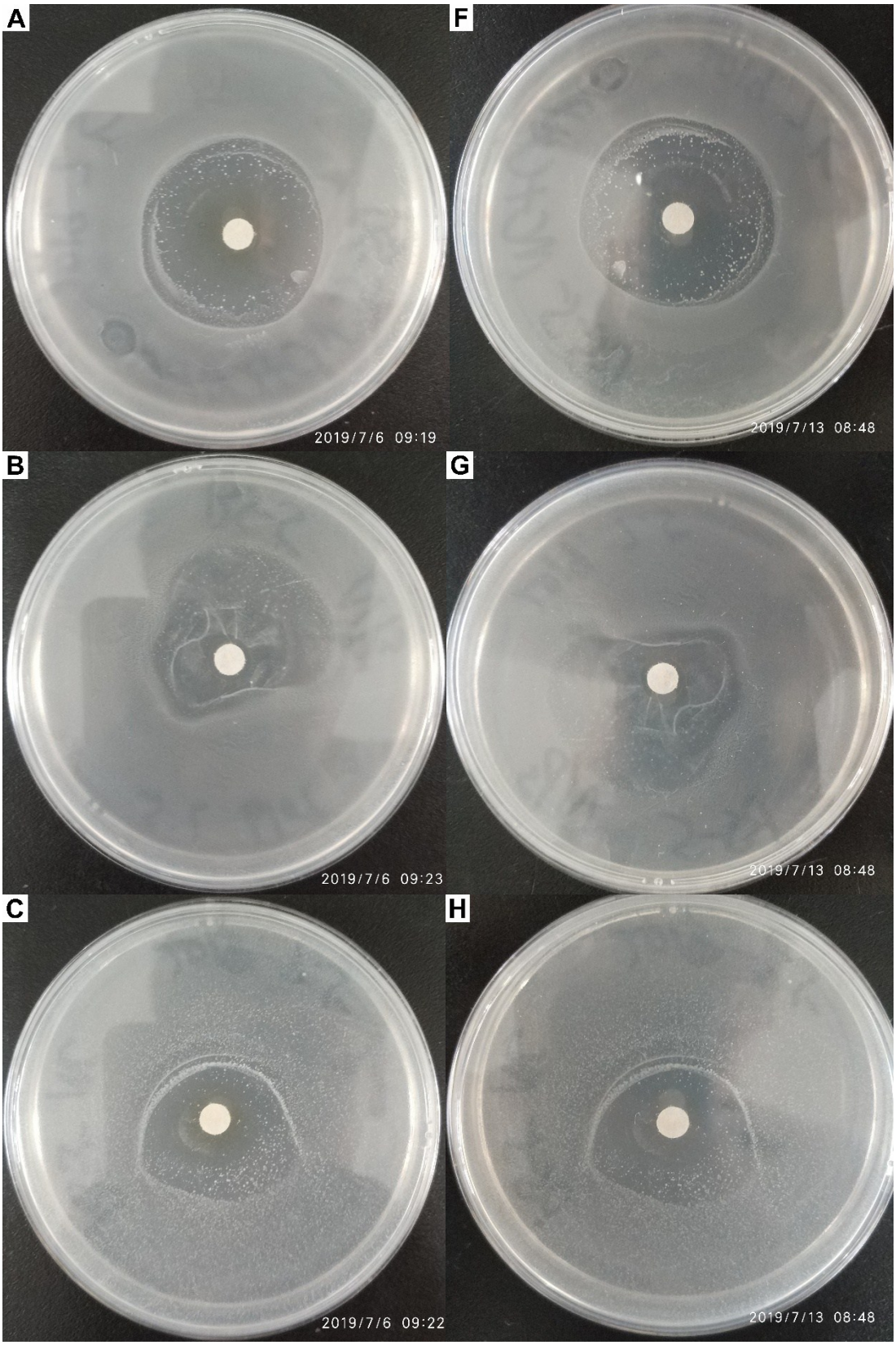
Drug sensitivity test results and discussion

Disk diffusion method was employed to evaluate the susceptibility of *R. solanacearum* on this nanoparticle. API, the nanoparticles loaded with MC and CAPE, MC, CAPE, Triton X-100 and were used as the inhibitor for RS-5 of *R. solanacearum.* Figure S1 shows that there is an obvious zone of inhibition formed in each plate after one day incubation. API and NPs group shows the larger inhibition zone than others. However, there are a few strains which break through this line and grow up within the zone of inhibition after 8 days incubation in API, MC, CAPE and Triton X-100 group. And there is no significant change in the NPs treatment group, which indicate that nanoparticles loaded with MC and CAPE might be capable of against the drug resistance of *R. solanacearum*. In addition, since two drugs are used in API there are fewer strains which could break through this line, which could be confirmed by simultaneous action of multiple agents can effectively reduce the resistance of pathogens to drugs. Furthermore, polymeric nanoparticles could be useful to against resistance of bacteria [1]. Therefore, this novel nanoparticle might have promising capable of against resistance of bacteria.

Reference

1 X. Ding, A. Wang, W. Tong, F. Xu. Biodegradable Antibacterial Polymeric Nanosystems: A New Hope to Cope with Multidrug-Resistant Bacteria. *Small*, 2019, **15**.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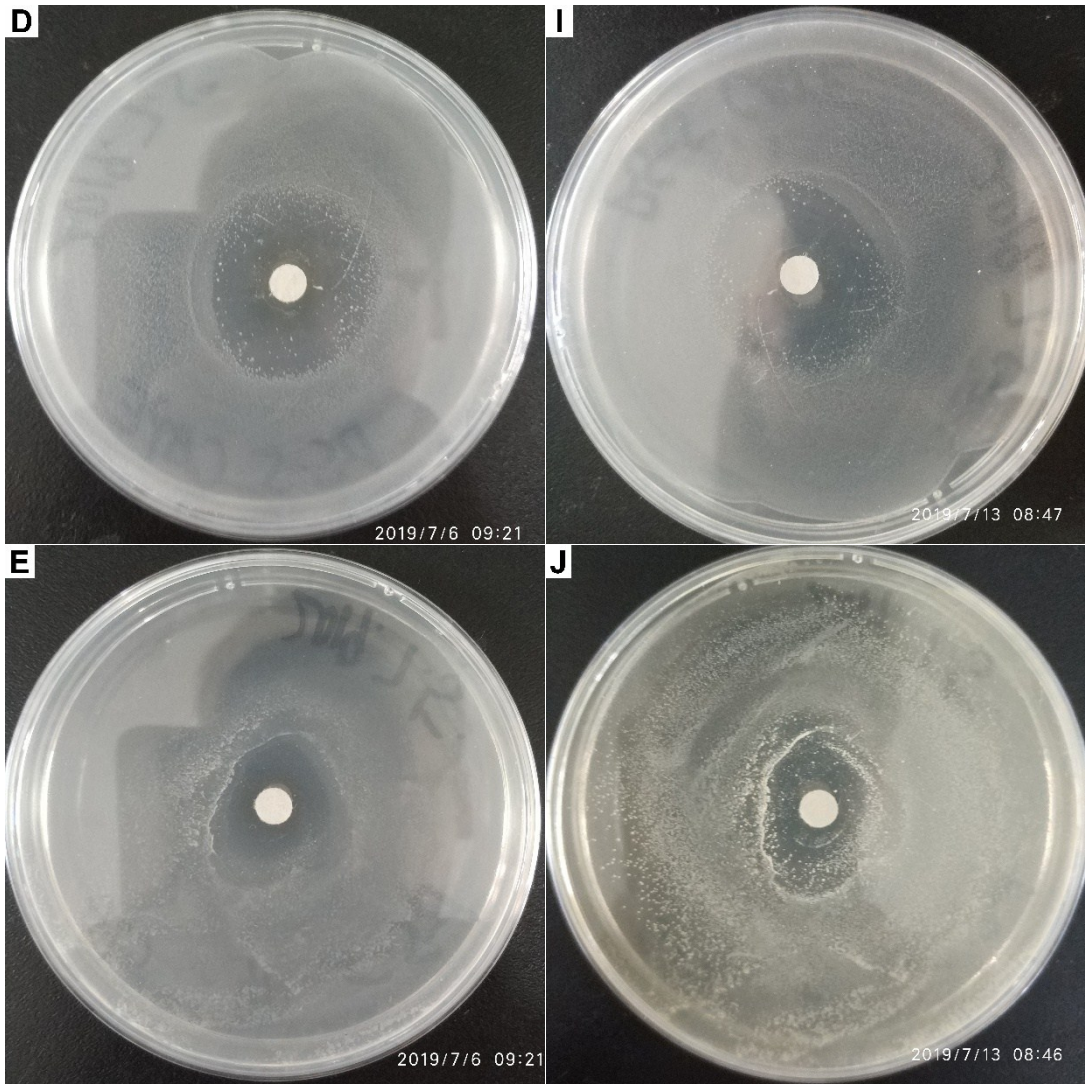

Figure S1 Susceptibility testing disk diffusion method of nanoparticles loaded with MC and CAPE. 4 mg/mL of API, nanoparticles loaded with MC and CAPE (NPs), MC, CAPE and Triton X-100 (Triton) were employed to carry out the susceptibility testing disk diffusion test and the plates was incubated overnight at 30 °C for 7 d. The treatment groups after one day of cultivation were named A, B, C, D and E; the treatment groups after 8 days of treatment were named F, G, H, I and J respectively.