**Supplemental Material**

**Figure 1S. Effect of different growth media on *Galleria mellonella* survival.** Groups of 10 larvae were used for each condition. Larvae were kept for 72 h in incubator at 37 °C with 5 % (v/v) CO2. Larvae were stabbed once in the far left pro-leg, and individuals within groups were each injected (10 µl/larva) with supplemented GC broth, PBS with and without supplements, PBS with ferric nitrate or ferric citrate. Untreated larvae were maintained as controls. Larvae were placed in an incubator at 37 °C with 5 % (v/v) CO2 and survival was examined by response to touch and recorded over a 72 h period. The symbols represent the percentage mean survival data and the error bars denote the standard error of the mean from n=7 independent experiments. Unpaired t test was done to compare survival in the treatment groups against untreated group at each time point, with \* denoting significant P value < 0.01.

**Figure 2S. Comparison of the effects of infection with sialylated and non-sialylated *N. gonorrhoeae* on the survival of *Galleria mellonella.*** Healthy larva (n = 10 per group) were infected with differing inocula of sialylated and non-sialylated *N. gonorrhoeae* P9-17 (OD 0.1 ~105 CFU/larva, OD 0.6 ~106 CFU/larva, OD 1.0 ~108 CFU/larva). Larvae were placed in an incubator at 37 °C with 5 % (v/v) CO2 and survival was examined by response to touch over a period of 48 h. The symbols represent the mean survival data from a minimum of 4 independent experiments and the error bars represent the standard deviation of the mean. Unpaired t test was done to compare survival between sialylated and non-sialylated bacteria at each dose tested and at each time point. No significant differences were observed (P>0.05).

**Figure 3S. Infection of *Galleria mellonella* with different doses of *Pseudomonas aeruginosa.*** Healthy larva (n = 10 per group) were infected with differing inocula of *P. aeruginosa* (from 150 CFU/larva up to 250,000 CFU per larva) and incubated at 37°C and survival was examined by response to touch over the next 48 h. Untreated larvae were maintained as controls. The symbols represent mean survival data from a minimum of 6 independent experiments and the error bars represent the standard deviation of the mean. Unpaired t test was done to compare survival against untreated control, and \* denotes significant killing with P values < 0.01.

**Figure 4S. A) The effect of infection with different *Lactobacillus species* on survival of *Galleria mellonella*.** Healthy larva (n = 10 per group) infected with differing doses of *L. brevis, L. crispatus,* and *L. gasseri*, incubated at 37°C and examined for survival over a period of 48 h. Symbols represent the mean survival from a minimum of 4 independent experiments and the error bars represent the standard deviation of the mean. Unpaired t test was done to compare survival in infected groups of larvae with control, GC broth injected larvae. \* denotes statistical significance P< 0.05.

**B) Effect of co-infection with *L. gasseri* and *Neisseria gonorrhoeae* on survival of *Galleria mellonella*.** Healthy *G. mellonella* larvae (n = 10 per group) were infected with differing doses of *L. gasseri* (0.1, 0.6, and 0.8 OD, ~105 - 107 CFU/larva) for 16 h and then infected with *N. gonorrhoeae* (0.8 OD, ~107 CFU/larva), incubated at 37°C and examined for survival over a period of 48 h. Symbols represent the mean survival from 3 independent experiments and the error bars represent the standard deviation of the mean.Injection of P9-17 significantly reduced larval survival to ~20% by 48 h (P<0.05, unpaired t Test), but there was no significant difference in larval survival between groups infected with P9-17 and any of the groups of larvae co-infected with *L. gasseri* prior to infection with gonococci (P>0.05, unpaired t Test).

**Figure 5S. The effect of depleting haemocytes with clodronate liposomes and subsequent infection with varying doses of *N. gonorrhoeae* on the survival of *Galleria mellonella***. Healthy larva (n = 10 per group) were pre-treated with either empty liposomes or clodronate liposomes at -16 h and then infected with *N. gonorrhoeae***A)** 0.1 OD, **B)** 0.4 OD) or **C)** 0.8 OD, incubated at 37°C and examined for survival by response to touch over a period of 48 h. The tested liposome concentrations were neat and 1/5 dilution. Symbols represent the mean survival from a minimum of 3 independent experiments and the error bars represent the standard deviation of the mean. Unpaired t test was done to compare survival at each time between empty liposome-treated and infected groups and clodronate-treated and infected groups. \* denotes statistical significance with P< 0.05.

**Figure 6S.** **The effect of ceftriaxone and azithromycin antibiotics on the survival of *Galleria mellonella.*** Healthy larva (n = 10 per group) were injected with different doses of ceftriaxone (Cef, up to 1000 µg/ml) and azithromycin (Azi, up to 1024 µg/ml), and incubated at 37°C and survival was examined by response to touch over a period of 48 h. Symbols are the mean survival data and the error bars represent the standard deviation of the mean. Data are representative of n=2 experiments.

**Figure 7S. The effect of a combination treatment of ceftriaxone and azithromycin on survival of *N. gonorrhoeae* infected *Galleria mellonella.*** Healthy larva (n = 10 per group) were infected with different gonococcal isolates (~108 CFU per larva) and injected with different doses of ceftriaxone (Cef) or a fixed dose of azithromycin (Azi, 256 μg/ml) alone and a combination of the two antibiotics. Larvae were incubated at 37°C and examined for survival by response to touch over a period of 48 h. The symbols represent the mean survival data from a minimum of 3 independent experiments and the error bars represent the standard deviation of the mean. Unpaired t test was done to compare the survival of gonococcal-infected *G. mellonella* groups without antibiotic and the survival of gonococcal-infected *G. mellonella* groups injected with antibiotics at each time point. \* denotes significant differences with P values < 0.05.

**Figure 8S. Effect of monocaprin and MNBA-AgNCs on the survival of *N. gonorrhoeae­*-infected *Galleria mellonella.*** Healthy larva (n = 10 per group) were infected with *N. gonorrhoeae* (~107 CFU per larva) and injected simultaneously with different doses of monocaprin (0.1 - 50 mM per larva) and MNBA-AgNC nanoparticles (0.467 – 58.44 µM per larva). Larvae were incubated at 37°C for 48 h and they were examined periodically for survival by response to touch. The symbols represent the mean survival data from 3 independent experiments and the error bars represent the standard deviation of the mean. Unpaired t test was done to compare between the survival of *G. mellonella* infected with gonococci alone and survival of *G. mellonella* group injected with gonococci and either monocaprin or silver nanoparticles at each time point.