

Introduction

- ▶ SMTL tested wound dressings containing antimicrobial agents submitted for the 2009/10 All-Wales NHS Wound Management Contract.
- ▶ A range of products were examined, including alginates, hydrofibres, foams, low adherent dressings and gauze products.
- ▶ Three test methods were used. This poster shows the results for **Direct Inoculation against Foam dressings**.
- ▶ All silver-containing dressings were assayed for total silver content using ICP-OES.

Methods

- ▶ Log Reduction Test by Direct Inoculation based upon a method described by C.Gallant-Behm et al[1].
- ▶ Dressings tested against clinical isolates of MRSA and *P. aeruginosa* from infected leg ulcers at the Princess of Wales Hospital, Bridgend.
- ▶ Dressings pre-wetted with sterile water and left for 2 hours prior to inoculation.
- ▶ Dressings tested after 4 and 24 hours incubation at 35±2°C.
- ▶ Microorganisms recovered by vortexing in a standard neutralising solution.
- ▶ Total viable counts performed using a standard plate count method.
- ▶ Log reduction calculated as the difference between the number of microorganisms recovered from the control dressing at time 0 and the test dressings at 4 or 24 hours.

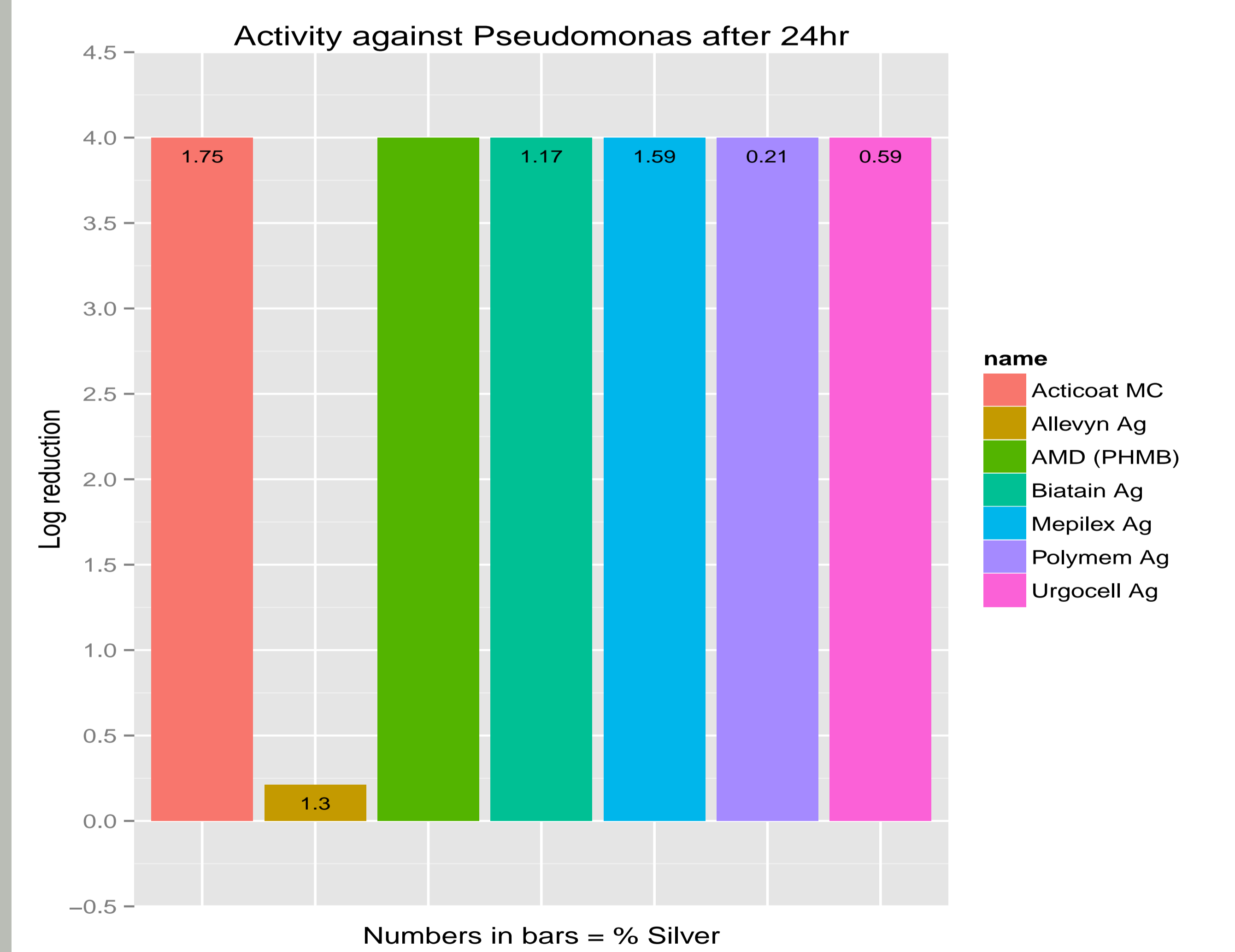
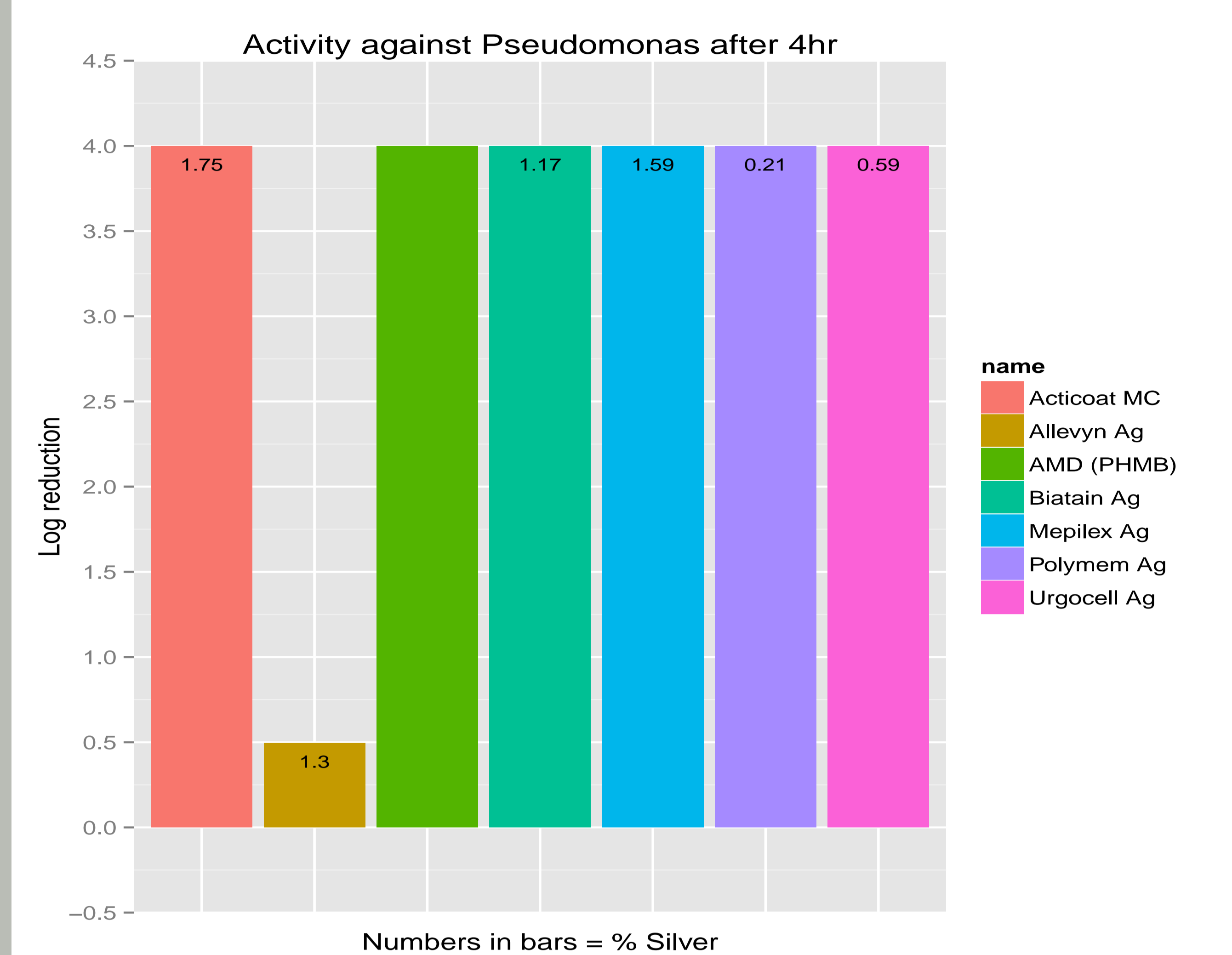
Discussion

- ▶ In antibiotic assay sensitivity testing, a compound may be considered bactericidal if the population is reduced by three orders of magnitude[1]
- ▶ With the exception of Allevyn Ag, the dressings showed greater activity against *P. aeruginosa* compared with MRSA.
- ▶ All of the dressings showed significant activity (>3 log reduction) against *P.aeruginosa* after 4 and 24 hours except for Allevyn Ag.
- ▶ The maximum sensitivity of the assay was limited to a 4-log reduction, due to the dilution factors

References

1. C. Gallant-Behm, H. Q. Yin, S. Liu, J. P. Heggors, R. E. Langford, M.E. Olson, D.A. Hart, R.E. Burrell Comparison of in vitro disc diffusion and time kill-kinetic assays for the evaluation of antimicrobial wound dressing efficacy. Wound Repair and Regeneration. 2005 V 13 (4) 412-421

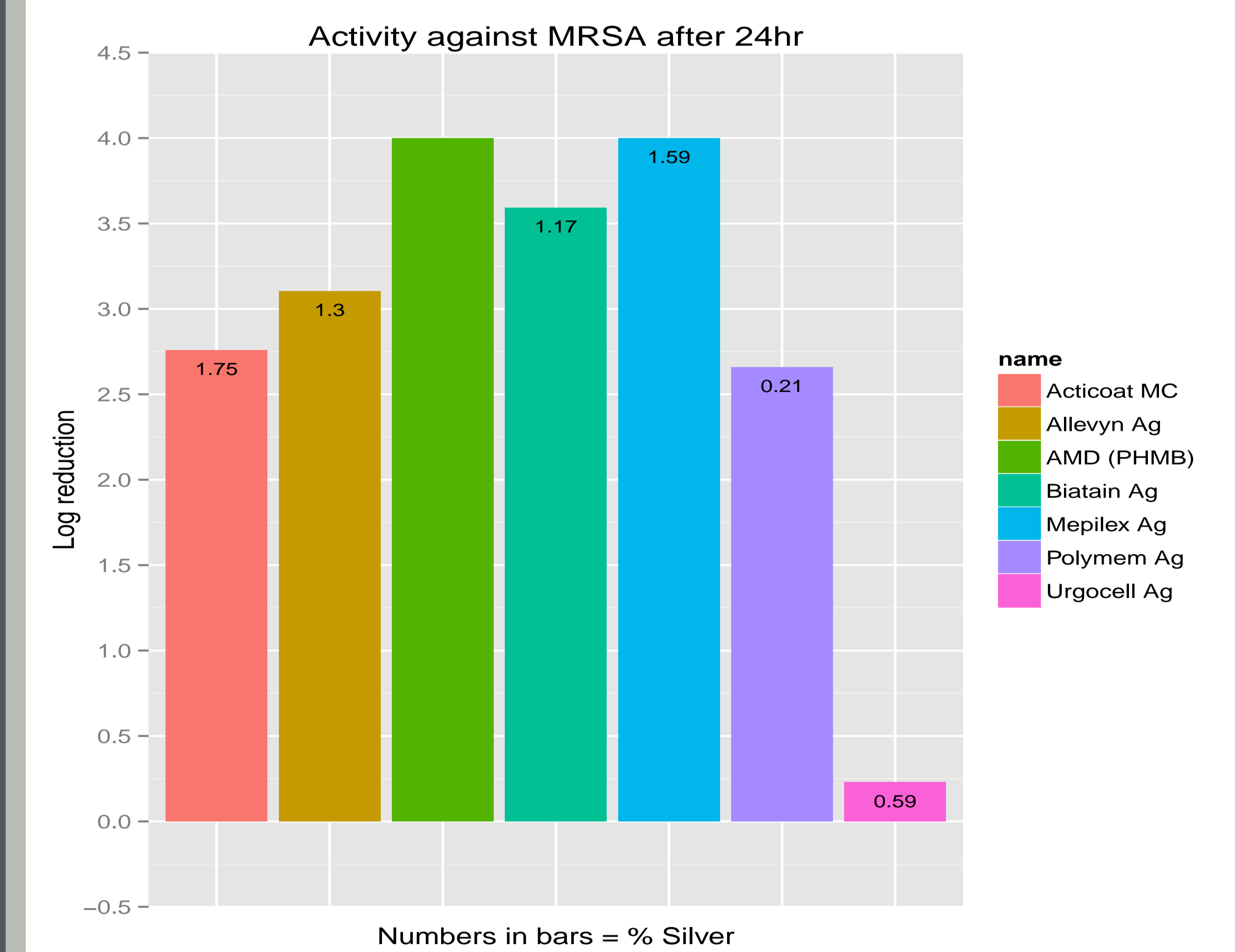
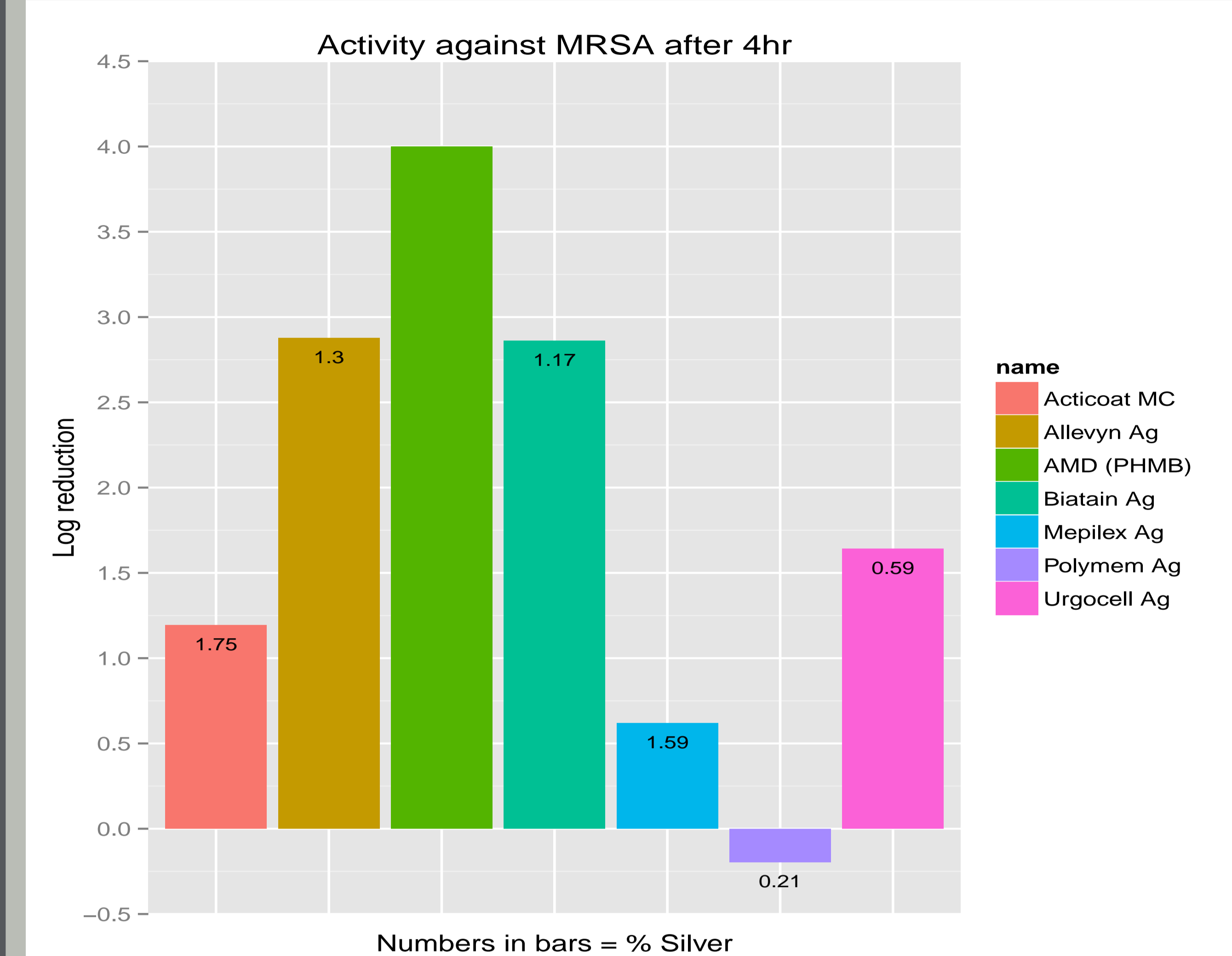
Results against Pseudomonas



Explanatory Notes

- ▶ The numbers at the top (or underneath) each of the bars show the % silver as analysed by ICP-OES.
- ▶ Bars without these numbers are silver-free dressings.

Results against MRSA



Conclusions

- ▶ The total silver content for some dressings is not correlated to their antimicrobial activity.
- ▶ The PHMB dressing (AMD) performed as well as or better than the silver dressings in this test.