

Figure S1: Comparative functional categorization of metabolic pathways in *Nocardiopsis* sp. ZS3416R2A and *Nocardiopsis* terrae DSM 45157 based on KEGG annotation. Bar chart illustrating the number of genes assigned to key metabolic pathways in the genomes of *Nocardiopsis* sp. ZS3416R2A (blue bars) and its closest related species, *Nocardiopsis* terrae DSM 45157 (red bars), as determined through KEGG annotation. Categories shown include carbohydrate metabolism, amino acid metabolism, energy metabolism, and secondary metabolite biosynthesis, among others. Differences in gene counts highlight potential variations in metabolic capacities and ecological adaptations between the two strains.

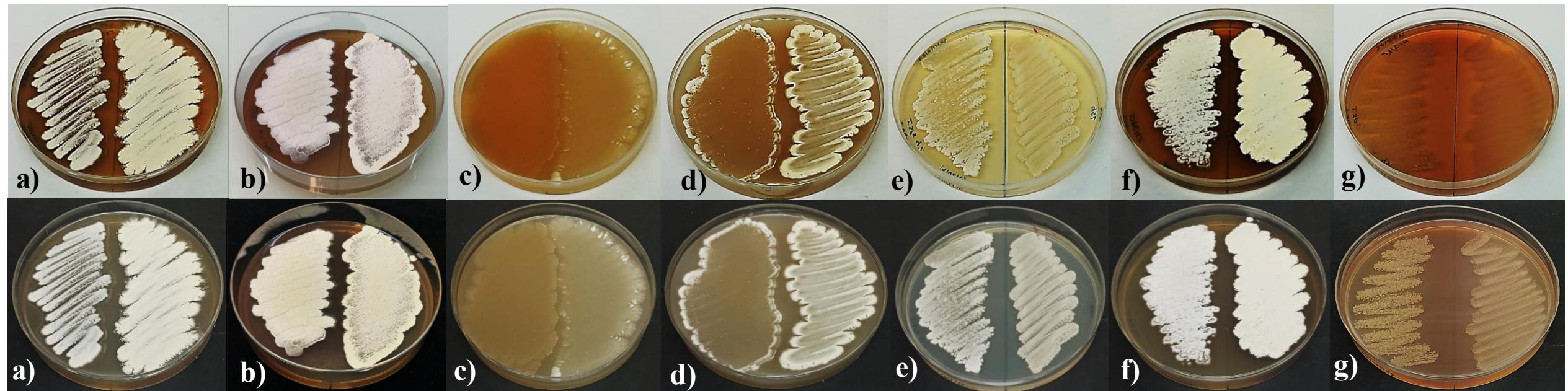


Figure S2 : Cultural characteristics between *Nocardiopsis* sp. ZS3416R2A (right) and *Nocardiopsis* terrae DSM 45157(left) on ISP Media. a) On ISP1; b) On ISP2 ; c) On ISP3 ; d) On ISP4 ; e) On ISP5 ; f) On ISP6 and g) On ISP7 (After 14 days of incubation at 30°C)

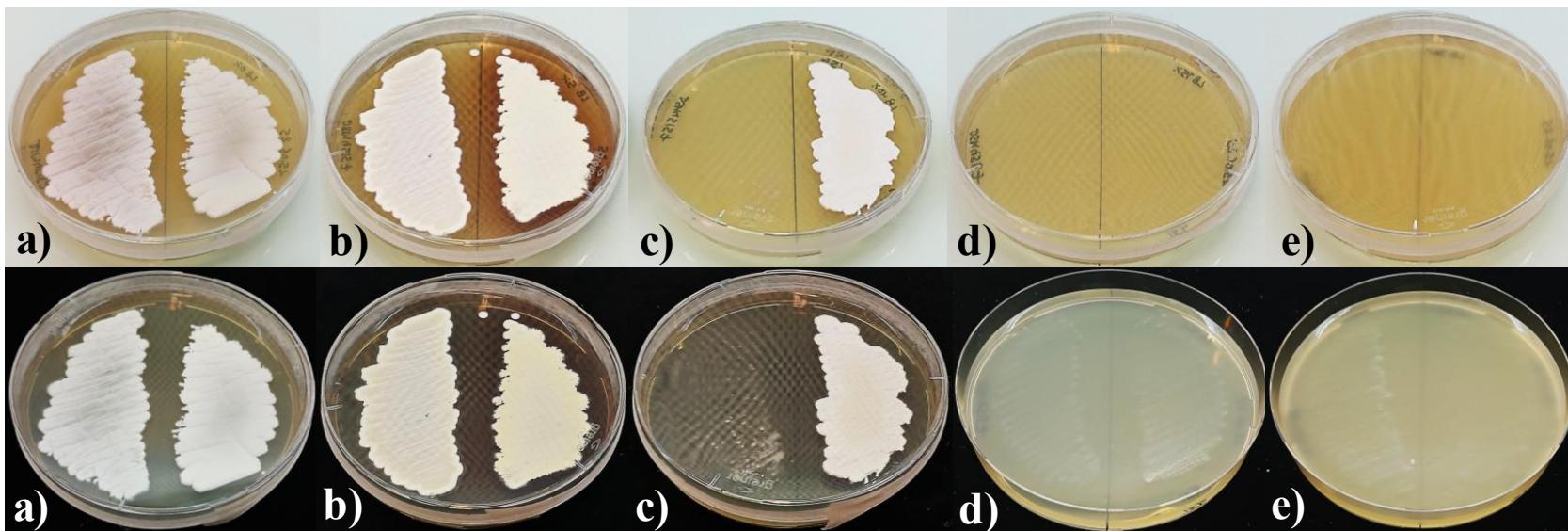


Figure S3: Cultural characteristics between *Nocardiopsis* sp. ZS3416R2A (right) and *Nocardiopsis* terrae DSM 45157 (left) on LB agar in the presence of : a) 0% NaCl ; b) 5% NaCl; c) 10%NaCl ; d) 15% NaCl ; e) 20% NaCl (After 5 days of incubation at 30°C)

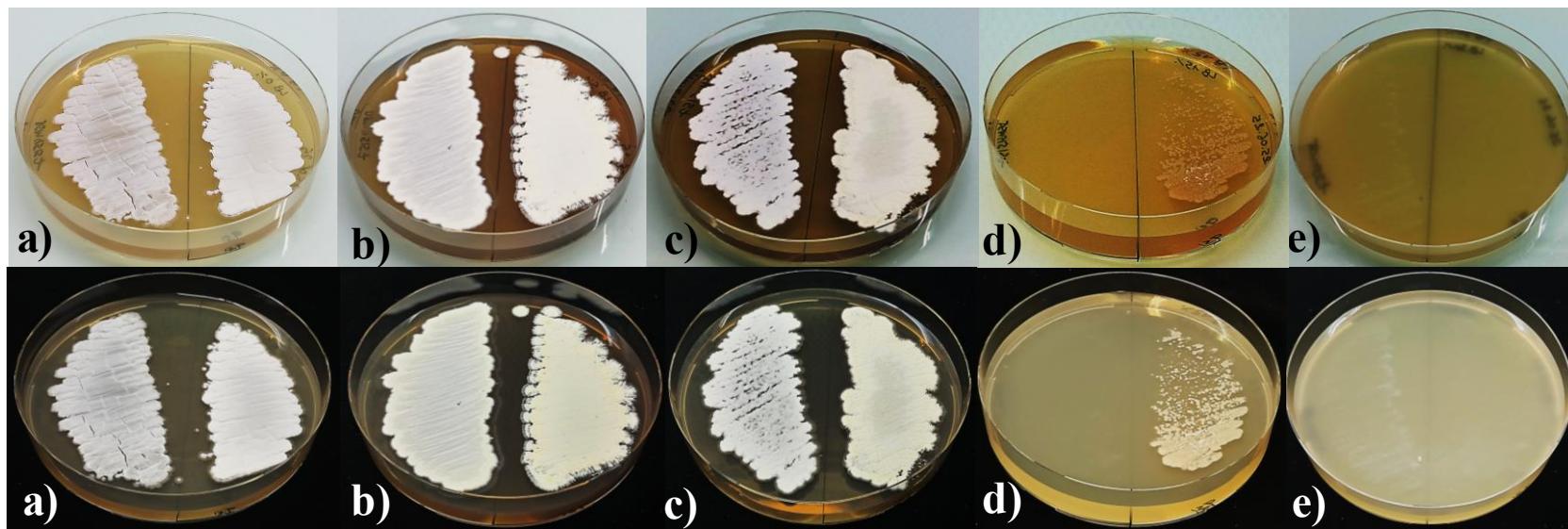


Figure S4: Cultural characteristics between *Nocardiopsis* sp. ZS3416R2A (right) and *Nocardiopsis* terrae DSM 45157 (left) on LB agar in the presence of : a) 0% NaCl ; b) 5% NaCl; c) 10%NaCl ; d) 15% NaCl ; e) 20% NaCl (After 14 days of incubation at 30°C)

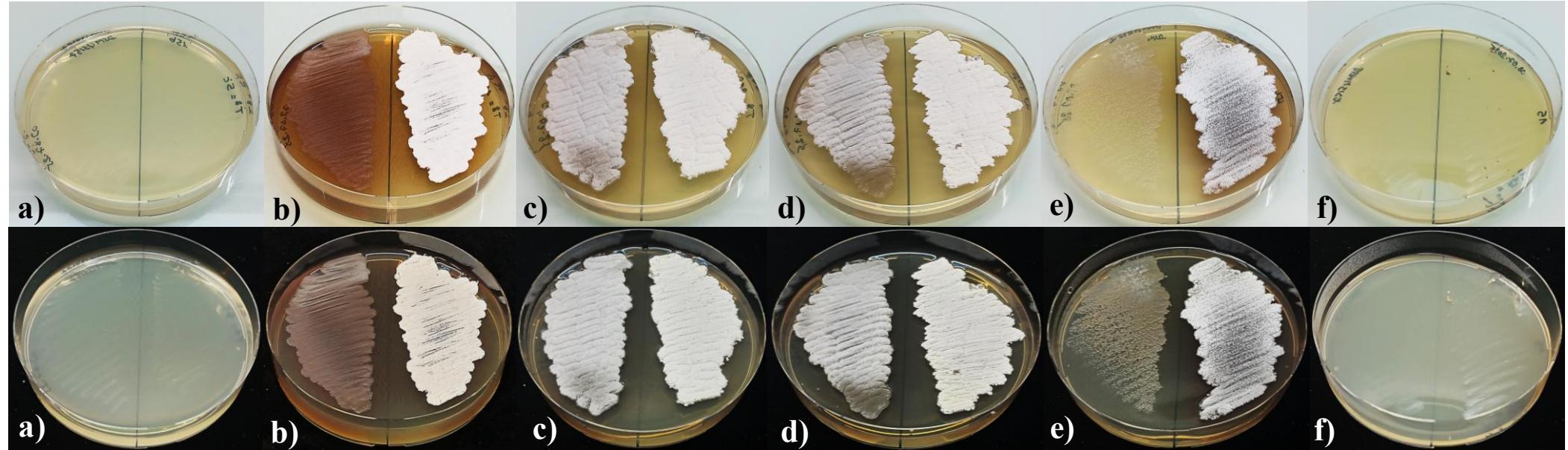


Figure S5: Cultural characteristics between *Nocardiopsis* sp. ZS3416R2A (right) and *Nocardiopsis* terrae DSM 45157 (left) on LB agar in different temperature of incubation : a) 4°C ; b) 16°C ; c) 28°C; d) 30°C ; e) 37°C and f) 50°C (After 5 days of incubation)

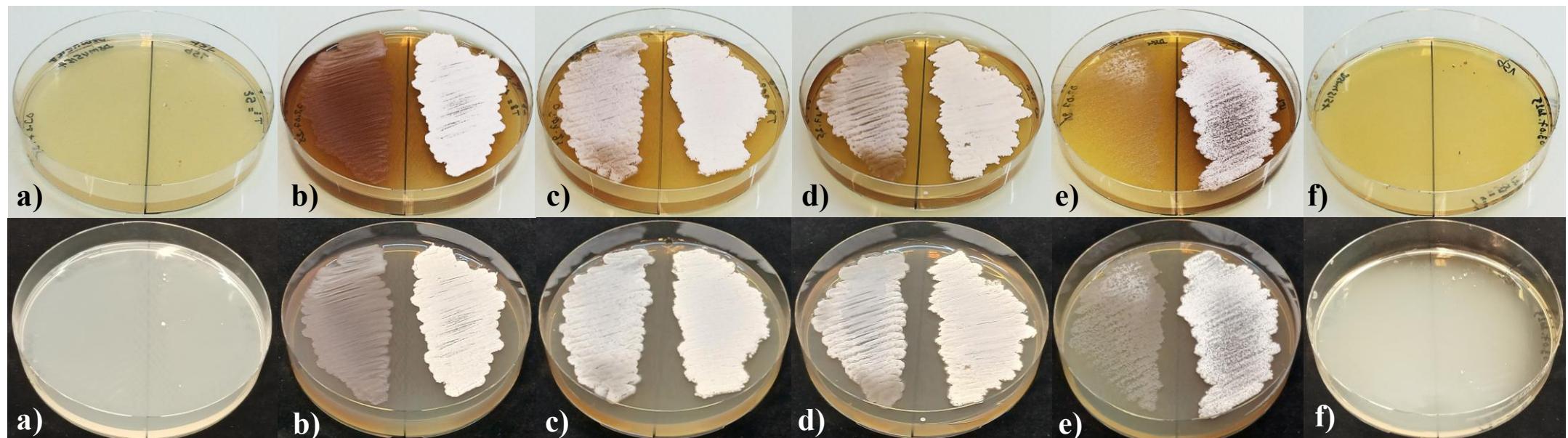


Figure S6: Cultural characteristics between *Nocardiopsis* sp. ZS3416R2A (right) and *Nocardiopsis* terrae DSM 45157 (left) on LB agar in different temperature of incubation : a) 4°C ; b) 16°C ; c) 28°C; d) 30°C ; e) 37°C and f) 50°C (After 14 days of incubation)

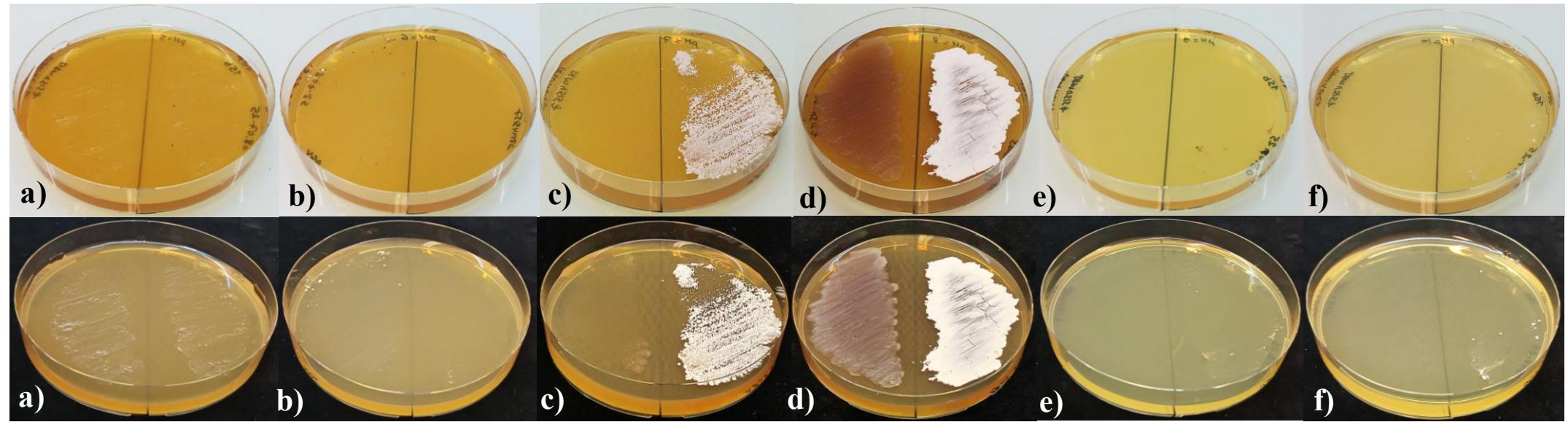


Figure S7: Cultural characteristics between *Nocardiopsis* sp. ZS3416R2A (right) and *Nocardiopsis* terrae DSM 45157 (left) on LB agar with different pH: a) pH = 5 ; b) pH = 6 ; c) pH = 7 ; d) pH = 8 ; e) pH = 9 and f) pH = 10 (After 5 days of incubation at 30°C)

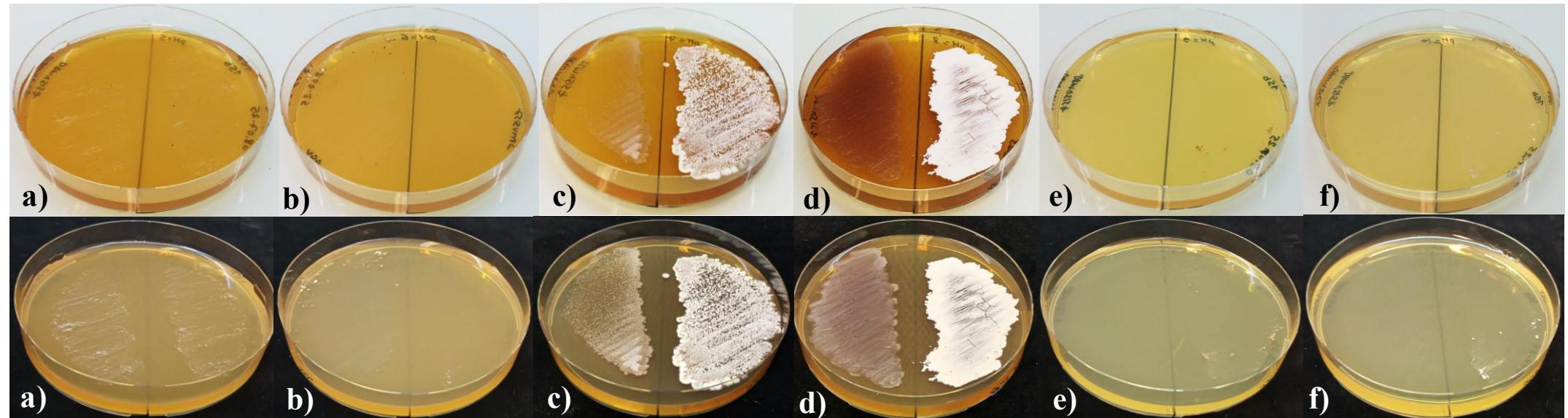


Figure S8 : Cultural characteristics between *Nocardiopsis* sp. ZS3416R2A (right) and *Nocardiopsis* terrae DSM 45157 (left) on LB agar with different pH: a) pH = 5 ; b) pH = 6 ; c) pH = 7 ; d) pH = 8 ; e) pH = 9 and f) pH = 10 (After 14 days of incubation at 30°C)