

Figure S14: **Distances between chosen hydrogen atoms of paromomycin,** compared with values from an NMR study of neomycin, which differs from paromomycin only with one chemical group, having OH instead of NH_3^+ . The experimental values are taken from Table 1 in [Asensio, J. L. *et al.*, Chemistry. **2002**, 8, 5228-40] and are as follows: $1 - \mathrm{H1}_{\mathrm{Glc}} - \mathrm{H4}_{\mathrm{Strp}}$, $2 - \mathrm{H1}_{\mathrm{Glc}} - \mathrm{H5}_{\mathrm{Strp}}$, $3 - \mathrm{H1}_{\mathrm{Glc}} - \mathrm{H3}_{\mathrm{Strp}}$, $4 - \mathrm{H1}_{\mathrm{Glc}} - \mathrm{H5}_{\mathrm{Rib}}$, $5 - \mathrm{H1}_{\mathrm{Glc}} - \mathrm{H2}_{\mathrm{Rib}}$, $6 - \mathrm{H1}_{\mathrm{Glc}} - \mathrm{H3}_{\mathrm{Rib}}$, $7 - \mathrm{H1}_{\mathrm{Rib}} - \mathrm{H5}_{\mathrm{Strp}}$, $8 - \mathrm{H1}_{\mathrm{Rib}} - \mathrm{H6}_{\mathrm{Strp}}$, $10 - \mathrm{H2}_{\mathrm{Rib}} - \mathrm{H6}_{\mathrm{Strp}}$, $11 - \mathrm{H1}_{\mathrm{Rib}} - \mathrm{H4}_{\mathrm{Rib}}$, $12 - \mathrm{H1}_{\mathrm{Ido}} - \mathrm{H3}_{\mathrm{Rib}}$, $13 - \mathrm{H1}_{\mathrm{Ido}} - \mathrm{H2}_{\mathrm{Rib}}$, $14 - \mathrm{H1}_{\mathrm{Ido}} - \mathrm{H4}_{\mathrm{Rib}}$. The asterisks (*) mark the distances that were described as "larger than" in the experimental work.