Tellurium, Heterocycles, Self Assembly

The crystal structures of 2-isopropyl-benzisothiazol-3-one-7-carboxylic acid isopropyl amide and of the corresponding selenium and tellurium derivatives have been determined. In contrast to the sulfur and selenium compounds, the tellurium derivative has an unprecedented three-dimensional network structure held together via $\pi-\pi$ stacking and hydrogen bonding interactions. The cavities in the 3D molecular network are filled with guest water molecules that are hydrogen bonded to carbonyl oxygen atoms.