Movie 1: Opening Pine Cone. A cone of Picea Abies opens as it dries in ambient air (no wind, 50% relative humidity). The most outer scales (close to the left end of the cone) dry first, as they are in direct contact with air. They open and then enable the following scales to dry. As the process goes on, one observes the propagation of a drying front from the foot to the head of the cone (left to right). As a consequence, the opening time of a whole cone is a lot longer than the drying time of an isolated scale in the same atmospheric conditions. The length of the cone is about 15 cm. The movie, which corresponds to 4 days, is accelerated 90000 times.

Movie 2: Closing Pine Cone. A cone of Picea Abies closes when immersed in a bath of water. All scales close in a synchronous manner, in a time comparable to the one observed for isolated scales. The length of the cone is about 15 cm. The movie, which corresponds to 2 hours, is accelerated 900 times.

Movie 3: Opening and Closing Pine Scale. A scale of a pine cone when immersed in water closes. Most of the deformation occurs in a small region of the scale that is usually attached to the axis of the cone. Once it is closed, the scale is taken out of the water. It then gets dry and opens again to its initial configuration. The scale is about 4 cm long. The movie, which corresponds to 4 hours, is accelerated 1200 times.

Movie 4: Straightening Bilayer. A paper-polymer bilayer straightens as water invades the porous structure of the paper. Water is provided at the bottom extremity of the device. A wet front progresses, separating a growing straight region and a shortening dry and curved portion. Owing to evaporation, the imbibition process is limited, and the wet front reaches an equilibrium position. The width of the picture is 7 cm. The movie, which corresponds to 100 minutes, is accelerated 300 times.

Movie 5: Curving Bilayer. When the water source is removed, the paper dries homogeneously. The bilayer thus bends back to its initial shape. In this homogeneous drying process, the curvature of the wicked region is constant along the stripe. The width of the picture is 7 cm. The movie, which corresponds to 35 minutes, is accelerated 300 times.

Movie 6: Blooming Flower. Flower where the petals are made of paper-plastic bilayers. When watered, the petals open due to the rise of liquid in the porous structure of the paper. The flower blooms in about ten minutes. The length of the petals is about 5 cm. The movie, which corresponds to 1 hour, is accelerated 375 times.

Movie 7: Closing/Wilting Flower. When it is left to dry, the flower wilts in a few minutes. The movie, which corresponds to 70 minutes, is accelerated 375 times.