

## **METHODS AND APPARATUS FOR OPHTHALMIC DEVICES INCLUDING CYCLOIDALLY ORIENTED LIQUID CRYSTAL LAYERS**

### **ABSTRACT**

This invention discloses methods and apparatus for providing a variable optic insert into an ophthalmic lens. A liquid crystal layer may be used to provide a variable optic function and in some examples, an alignment layer for the liquid crystal layer may be patterned in a cycloidally dependent manner. The patterning may allow for a polarization dependent lens in some examples. An energy source is capable of powering the variable optic insert included within the ophthalmic lens. In some examples, an ophthalmic lens is cast-molded from a silicone hydrogel. The various ophthalmic lens entities may include electroactive liquid crystal layers to electrically control optical characteristics.

Fig. 7