



# **KPro Study Group**

## **PATENTS**

On

**KERATOPROSTHESIS**

and

**ARTIFICIAL CORNEA**

and

**BIOMATERIALS THEREFOR**

**1789 to 2005**



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Compiled at the Bascom Palmer Eye Institute by the

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Your contribution will be publicly acknowledged in future KPro Patent Updates. Thank you.



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Patent	Issued	Filed	Priority	IPC Class	Applicant-Assignee Inventors	Title
<a href="#">US2517523*</a>	08/01/1950	04/15/49		623/065; 128/853	California Research Corp. Batchelder; Augustus H	Biological window
<a href="#">US2714721*</a>	08/01/1955	01/23/1953		623/005: 351/160. R	Stone, Jr.; William	Artificial corneal implants
<a href="#">US2754520*</a>	07/17/1956	11/01/1954		623/005: 351/160. R	Crawford, Jr.; J.H.	Corneal implant
<a href="#">US2952023*</a>	9/01/1960	03/19/1957		623/005: 351/160. R	Rosen; Hyman	Corneal fabrication
<a href="#">US3074407*</a>	1/1963				Moon et al.	No info available
<a href="#">US3458870</a>	08/05/1969	05/25/1964	04/23/1964	A61F 1/16;	Stone Jr.; William	Artificial corneal implants having a removable lens member
<a href="#">US3454966</a>	07/15/1969	02/11/1965		A61F 1/16	Rosen; Hyman	Prosthetic corneal fabrication with heating and cooling means to facilitate attachment to corneal tissue
<a href="#">US3945054</a>	03/23/1976	12/02/1974	03/04/1973	A61F 1/16	None Fedorov; Svyatoslav, Nikolaevich Zuev; Viktor Konstantinovich	Through corneal prosthesis and method of installing same
<a href="#">US4285073</a>	08/25/1981	02/11/1980		A61F 1/16	Thermo Electron Corporation Szycher; Michael	Keratoprosthetic polyurethane
<a href="#">US4386039</a>	05/31/1983	02/27/1981		B29D 11/00	Thermo Electron Corporation Szycher; Michael	Process for forming an optically clear polyurethane lens or cornea
<a href="#">US4607617*</a>	08/26/1986	09/20/1982	08/05/1980	A61B 19/00;	None Choyce; David P	Apparatus and method for improving eyesight
<a href="#">US4424335</a>	01/03/1984	07/19/1982		C08G 18/32	Thermo Electron Corporation Szycher; Michael	Keratoprosthetic polyurethane
<a href="#">US4470159</a>	09/11/1984	03/03/1982		A61F 1/16	None Gholam A Peyman	Keratoprosthesis
<a href="#">US4612012</a>	09/16/1986	07/28/1982		A61F 2/14	None White; Thomas C.	Corneal implant
<a href="#">US4581030</a>	04/08/1986	12/18/1984	11/30/1982	A61F 2/14	Massachusetts General Hospital, Bruns; Romaine R., Gross; Jerome,	Collagen replacement prosthesis for the cornea
<a href="#">US4563779</a>	01/14/1986	01/27/1984		A61F 1/16	None Kelman; Charles D.	Corneal implant and method of making the same
<a href="#">US4586929</a>	05/06/1986	04/06/1984		A61F 2/14	None Perry S Binder	Hydrogel keratoprosthesis
<a href="#">US4976732</a>	12/11/1990	09/12/1984		A61F 2/16	International Financial Associates Holdings, Inc. Vorosmarthy	Optical lens for the human eye
<a href="#">US4693715</a>	09/15/1987	6/19/1986		A61F 2/14	None Abel, Jr.; Robert,	Artificial cornea



<a href="#">US4715858</a>	12/29/1987	07/25/1986		None; Lindstrom; Richard L.	Epicorneal lens	
<a href="#">US4865601</a>	09/12/1989	07/07/1987	A61F 2/14	None Caldwell, Delmar R., Jacob- LaBarre; Jean,	Intraocular prostheses	
<a href="#">US4923466</a>	05/08/1990	03/14/1989	12/15/1986	A61F 2/14	None; Pintucci; Stefano	Kerato-prosthesis for transcorneal implantation and process of manufacture thereof
<a href="#">US4842599</a>	06/27/1989	11/12/1987		A61F 2/14	None; Bronstein; Ann M. Bronstein; Leonard	Prosthetic cornea and method of implantation therefor
<a href="#">US4772283</a>	09/20/1988	12/09/1987		A61F 2/14	None; White; Thomas C.	Corneal implant
<a href="#">US4851003</a>	07/25/1989	01/05/1988		A61F 2/14	None; Lindstrom; Richard L.	Corneal implant lens with fixation holes
<a href="#">US5108428</a>	04/28/1992	03/02/1988		A61F 2/14	Minnesota Mining and Manufacturing Company; Capecchi; John T., Franzblau; CarlGibbons; Donald F., Isaacson; William B., Johnston; Manley R., Knoll; Randall L., Leibowitz; Howard M., Trinkaus-Randall; Vickery.	Corneal implants and manufacture and use thereof
<a href="#">US5044743</a>	09/03/1991	12/20/1988		G02C 7/12	Allergan, Inc. Ting; Albert C.	Corrective lens system
<a href="#">US4994081</a>	02/19/1991	04/16/1990		A61F 2/14	CBS Lens Civerchia; Linda, Shepard; Dennis D.	Method for locating on a cornea an artificial lens fabricated from a collagen- hydrogel for promoting epithelial cell growth
<a href="#">US5067961</a>	11/26/1991	02/15/1990		A61F 2/14	Autogenesis Technologies, Inc. Kelman; Charles D., DeVore; Dale P.	Non-biodegradable two phase corneal implant and method for preparing same
<a href="#">US5030230</a>	07/09/1991	01/23/1990		A61F 2/14	Great Plains Eye Clinic, Ltd; White; Thomas C	Corneal implant
<a href="#">US5112350</a>	05/12/1992	02/15/1991			CBS Lens; Civerchia; Linda, Shepard; Dennis D.	Method for locating on a cornea an artificial lens fabricated from a collagen- hydrogel for promoting epithelial cell growth and regeneration of the stroma
<a href="#">US5354332</a>	10/11/1994	02/26/1993	08/02/1990	A61F 2/14	None; Lacombe; Emmanuel	Artificial cornea
<a href="#">US5713956</a>	02/03/1998	12/10/1992	04/10/1991	A61F 2/14	FCI Inc; Jean-Marc Legeais	Microporous support for a keratoprosthesis
<a href="#">US5171318</a>	12/15/1992	01/21/1992		A61F 2/14	Chiron Ophthalmics, Inc. ; Gibson; David, Lerner; Michael, Nordquist; Robert, Reich; Cary.	Treated corneal prosthetic device
<a href="#">US5300116</a>	04/05/1994	08/14/1992	08/05/1992	A61F 2/14	Lions Eye Institute of Western Australia; Chirila; Traian V , Constable; Ian J., Crawford; Geoffrey J., Russo; Albert V.	Keratoprosthesis
<a href="#">US5458819</a>	10/17/1995	12/20/1993	08/05/1992	B29D 11/00	Lions Eye Institute of Western Australia, Incorporated; Chirila, Constable, Crawford, Russo	Method of producing a keratoprosthesis
<a href="#">US5300115</a>	04/05/1994	11/19/1992		A61F 2/14	Keratos, Inc; Py; Daniel	Intraocular prosthesis
<a href="#">US5489300</a>	02/06/1996	06/24/1993		A61F 2/14	Minnesota Mining & Manufacturing Co. ; Capecchi; John T., Franzblau; Carl, Gibbons; Donald F., Isaacson; William B., Johnston; Manley R., Knoll;	Surgical method for implanting a corneal implant



				Randall L, Leibowitz; Howard M., Trinkaus-Randall; Vickery		
<a href="#">US5489301</a>	02/06/1996	09/03/1993	A61F 2/14	None; John C Barber	Corneal prosthesis	
<a href="#">US5433745</a>	07/18/1995	10/13/1993	A61F 2/16	Allergan, Inc.; Graham; Richard S., Cunanan; Crystal M., Francese; James E.	Corneal implants and methods for producing same	
<a href="#">US5366499</a>	11/22/1994	01/05/1994	11/19/1992	A61F2/1 4	Keratos, Inc.; Py; Daniel	Intraocular prosthesis
<a href="#">US6106552</a>	08/22/2000	07/21/1998	01/30/1996	A61F 2/14	Corneal Industrie; Lacombe; Emmanuel, Bos; Gilles, Villain; Franck	Corneal prosthesis device having anterior and posterior annular skirts
<a href="#">US5843185</a>	12/01/1998	10/23/1996		A61F 2/14	None; Carlos Leon Rolden, Jose I Barraquer Granados	Keratoprosthesis and method of corneal replacement
<a href="#">US5836313</a>	11/17/1998	04/14/1995		A61B 19/00	Massachusetts Institute of Technology; Perez; Edward, Miller; David, Merrill; Edward W.	Methods for making composite hydrogels for corneal prostheses
<a href="#">US5632773</a>	05/27/1997	03/15/1996		A61F 2/14	Allergan, Inc.; Graham; Richard S., Cunanan; Crystal M	Biostable corneal implants
<a href="#">US6005160</a>	12/21/1999	02/22/1996		A61F 2/02	National Science Council; Hsiue; Ging-Ho, Lee; Shyh- Dar, Chung; Patricia Chuen- Tsuei,	Heterobifunctional membrane in application of artificial cornea
<a href="#">US6254637</a>	07/03/2001	04/10/2000		A61F 2/14	Lucid Korea Co., Ltd.; Lee; Jin Hak, Wee; Won Ryang, Lee; Moo Suk	Artificial cornea and implantation thereof
<a href="#">US6,814,755</a>	11/09/2004	06/29/1999		A61F 002/14	Corneal Industrie; LaCombe; Emmanuel; Parel, Jean-Marie; Duchesne; Bernard; Villain; Franck	Artificial Cornea
<a href="#">US6,755,858</a>	06/29/2004	04/27/2000		A61F 002/14	None; White; Thomas C	Prosthetic Corneal Graft and Method
<a href="#">US6,423,093</a>	07/23/2002	07/26/2000		A61F 002/14	The Lions Eye Institute of Western Australia Incorporated Hicks; Celia, Crawford; Geoffrey; Chirila; Traian, Constable; Ian J	Method of Insertion of Keratoprosthesis
<a href="#">US6,645,715</a>	11/11/2003	07/24/2000		A01N 001/02	University of Ottawa; Universite Laval; University of Tennessee Research Corp. Griffith; May, Watsky; Mitchell, Doillon; Charles J., Song; Ying	Artificial Cornea
<a href="#">US6,391,055</a>	05/21/2002	12/03/1998		A61F 002/14	Menicon Co., Ltd.; Ikada; Yoshito, Ohashi; Junichi, Kondo; Naoki, Nishizawa; Aoi, Ando; Ichiro	Artificial Cornea
<a href="#">US6,673,112</a>	01/06/2004	10/19/2001		A61F 002/14	Anamed, Inc; Nigam; Alok	Corneal implant and method of manufacture
<a href="#">US6,632,244</a>	10/14/2003	09/06/2000		A61F 002/16	Anamed, Inc; Nigam; Alok	Corneal implant and method of manufacture
<a href="#">US6,626,941</a>	09/30/2003	10/19/2001		A61F 002/14	Anamed, Inc; Nigam; Alok	Corneal implant and method of manufacture
<a href="#">US6,607,556</a>	09/19/2003	09/06/2000		A61F 002/14	Anamed, Inc; Nigam; Alok	Corneal implant and method of manufacture
<a href="#">US6,605,093</a>	08/12/2003	01/05/2000		A61F 009/00	Tekia, Inc. Blake; Larry W.	Device and method for use with an ophthalmologic insertor apparatus
<a href="#">US6,361,560</a>	03/26/2002	08/27/1999		A61F 002/14	Anamed, Inc; Nigam; Alok	Corneal Implant and method of manufacture
<a href="#">US6,346,121</a>	02/12/2002	11/22/1999		A61F	The Lions Eye Institute of	Ocular socket prosthesis



002/16 Western Australia  
Incorporated;  
Hicks; Celia, Clayton;  
Anthony, Chirila; Traian,  
Crawford; Geoffrey,  
Constable; Ian, Fitton; Janet

European Patents

<a href="#">GB2403908</a>	01/19/2005	A61 F2/14	None; Darougar; Dayshad, Darougar Sohrab	Keratoprosthesis or artificial cornea with a skirt
<a href="#">WO2004028410</a>	04/08/2004	A61 F2/16	Lions Eye Inst. Australia Inc.; Chirila; Traian, Hicks; Celia Rachel; Lou, Xia; Crawford; Geoffrey; James, Constable Ian; Jeffrey	Biointegrable Keratoprosthesis
<a href="#">BG107181</a>	04/30/2004	A61 L27/00	None; Angelov; Botao, Jordanova; Spasova Margarita	Supporting Part of Keratoprosthesis



<a href="#">US2003055497</a>	03/20/2003	A61 F2/16	The Lions Eye Institute of Western Australia Incorporated Hicks; Celia, Crawford; Geoffrey; Chirila; Traian, Constable; Ian J	Method of insertion of Keratoprostheses		
<a href="#">US2003033010</a>	02/13/2003	A61 F2/14	The Lions Eye Institute of Western Australia Incorporated Hicks; Celia, Crawford; Geoffrey; Chirila; Traian, Lou; Xia	Method of insertion of Keratoprostheses		
<a href="#">EP1408881</a>	04/21/2004	A61 F2/14	The Lions Eye Institute of Western Australia Incorporated Hicks; Celia, Crawford; Geoffrey; Chirila; Traian, Lou; Xia	IMPROVED KERATOPROSTHESIS		
<a href="#">WO02089709</a>	11/14/2002	A61 F2/14	The Lions Eye Institute of Western Australia Incorporated Hicks; Celia, Crawford; Geoffrey; Chirila; Traian, Lou; Xia	Modified Keratoprosthesis		
<a href="#">US6755858</a>	06/29/2004	A61 F2/14	None; White; Thomas C	Prosthetic corneal graft and method		
<a href="#">RU2162678</a>	02/10/2001	A61 F9/007	None; Epikhin Aleksandr Nikolaevich	Method for Implanting Bearing Part of A Keratoprosthesis		
<a href="#">A61F9/007</a>	02/20/2002	A61 F9/007	G Uchrezhdenie Mezhotraslevoj; Tekhn Kompleks Mikrokhirurgija, Moroz; Kovshun E; Kalinnikov Ju Ju; Semenova NV Moroz O	Method for applying Keratoprosthesis for Treating the Cases of Thinned Vascular Leukomas		
<a href="#">RU2150956</a>	06/20/2000	A61 K38/39	Ija Glaza; Ooo Nau; Chino Ehksperimental Noe Proizv Bagrov S N, Maklakova I A; Maljugin B EH; Verzin AA	Method of Biocompatible Material Producing		
<a href="#">RU2157147</a>	10/10/2000	A61 F2/14	None; Epikhin Aleksandr Nikolaevich	Keratoprosthesis		
<a href="#">EP0956834</a>	11/17/1999	A61 F2/14	France Chirurgie Instr; Legeais Jean-Marc; Drubaix Isabelle	Keratoprosthesis and tool to treat the haptic		
<a href="#">RU2139014</a>	10/10/1999	A61 F2/14	None; Epikhin Aleksandr Nikolaevich	Keratoprosthesis		
<a href="#">RU2124331</a>	01/10/1999	A61 F2/14	Fedorov Svjatoslav Nikolaevich; Bagrove Sergrej, Nikolaevich; Novikov Sergej Viktorovich; leont Eva Galina Dmitrievna; Kalinnikov Jurij Jur Evich	Keratoprosthesis		
<a href="#">US5843185</a>	12/01/1998	A61 F2/14	None; Leon Rolden Carlos; Barraquer Granados Jose I	Keratoprosthesis and method of corneal replacement		
<a href="#">RU2102939</a>	01/27/1998	A61 F2/14	Rokhirurgija Glaza; Mezhotraslevoj NT, Kompleks Mik	Keratoprosthesis		
<a href="#">US5744515</a>	04/28/1998	10/11/1996	A61L 27/00	BSI Corporation; David L Clapper	Method and implantable article for promoting endothelialization	
<a href="#">US5693095</a>	12/02/1997	10/29/1996	A61F 2/16	Alcon Laboratories, Inc.; Freeman; Charles, Jinkerson; David L., Karakelle; Mutlu, LeBoeuf; Albert R.	High refractive index ophthalmic lens materials	
<a href="#">US5387106</a>	02/07/1995	04/06/1992	G09B 23/28	Powerlasers Ltd.; Mackenzie; Brian W., Duley; Walter W., Ogmen; Melih	Solid state artificial cornea and method for UV laser sculpting	
<a href="#">US6271332</a>	08/07/2001	04/20/1999	12/22/1995	C08G	Novartis AG;	Polyurethanes made from



			77/26	Lohmann; Dieter, Hopken; Jens, Domschke; Angelika	polysiloxane/polyol macromers	
<a href="#">US5962005</a>	10/05/1999	04/15/1998	04/17/1997	B01J 13/00	Rengo Co., Ltd; Saga; Hiroshi, Saito; Hidenao	Transparent cellulose hydrogel and production process thereof
<a href="#">US5822091</a>	10/13/1998	01/25/1996		G03H 1/10	None; Baker; Kenneth M.	Extreme depth-of-field optical lens and holographic projector system for its production
<a href="#">US5152788</a>	10/06/1992	12/27/1989		A61F 2/16	Minnesota Mining and Manufacturing Company; Isaacson; William B., Futhey; John A, Thompson; Kent D., Ihn; Paul T.	Multifocal diffractive ophthalmic lens and method of manufacture
<a href="#">US3992563</a>	11/16/1976	03/17/1975	11/14/1974	C08F 216/02	Toyo Contact Lens Company, Limited; Tanaka; Kyoichi	High toughness synthetic high polymers for soft contact lenses and a process for manufacturing the same
<a href="#">US4786446</a>	11/22/1988	02/26/1987		B29D 11/00	Minnesota Mining and Manufacturing Company; Hammar; W. James, Ofstead; Ronald F	Process of forming a hydroxy-substitute polymeric shaped article
<a href="#">US6210005</a>	04/03/2001	02/04/1999		G02C 7/04	None; Portney; Valdemar,	Multifocal ophthalmic lens with reduced halo size
<a href="#">US6102946</a>	08/15/2000	12/23/1998		A61F 2/14	Anamed, Inc.; Nigam; Alok	Corneal implant and method of manufacture
<a href="#">US6043328</a>	03/28/2000	11/17/1997	05/19/1995	G02B 1/04	Novartis AG; Domschke; Angelika, Lohmann; Dieter, Hopken; Jens	Polysiloxane-polyol macromers, their preparation and their use
<a href="#">US5973089</a>	10/26/1999	12/22/1997	04/04/1995	C08F 16/24	Novartis AG; Meijs; Gordon Francis, Laycock; Bronwyn Glenice, Steele; John Gerard Johnson; Graham	Polymerizable perfluoroalkylether macromer
<a href="#">US5945498</a>	08/31/1999	12/22/1997	04/04/1995	C08G 77/24	Novartis AG; Hopken; Jens, Lohmann; Dieter, Domschke; Angelika	Polysiloxane-comprising perfluoroalkyl ethers and the preparation and use thereof
<a href="#">US5743868</a>	04/28/1998	02/14/1994		A61M 5/00	None; Brown; Reay H., Thompson; Keith P.	Corneal pressure-regulating implant device
<a href="#">US5660692</a>	08/26/1997	06/07/1995		C08K 5/00	Cedars-Sinai Medical Center; Nesburn; Anthony B., Gorin; Michael B., Kenney; M. Cristina, Maguen; Ezra	Method of crosslinking amino acid-containing polymers using photoactivatable chemical crosslinkers
<a href="#">US5336261</a>	08/09/1994	02/10/1993		A61F 2/14	Chiron IntraOptics, Inc.; Barrett; Graham D., Link; William J., Reich; Cary J.	Corneal inlay lenses
<a href="#">US5196026</a>	03/23/1993	09/16/1991		A61F 2/14	Chiron Ophthalmics, Inc.; Barrett; Graham D., Link; William J., Reich; Cary J.	Method of implanting corneal inlay lenses smaller than the optic zone
<a href="#">US4676790</a>	06/30/1987	09/25/1985		A61F 2/14	None; Kern; Seymour P	Method of manufacture and implantation of corneal inlays
<a href="#">US4624669</a>	11/25/1986	09/26/1984		A61F 2/14	Surgidev Corporation; Grendahl; Dennis T.	Corneal inlay with holes
<a href="#">US6036891</a>	03/14/2000	05/11/1998		F21V 9/06	Pharmacia & Upjohn; Liao; Xiugao, Lee; Ging-See, Zhou; Stephen Q.	Polymerizable hydrophilic ultraviolet light absorbing monomers
<a href="#">US5652640</a>	07/29/1997	04/17/1996		A61B 3/10	None; Schneider; Richard T., Keates; Richard H.	Vision simulating apparatus and method
<a href="#">US5443473</a>	08/22/1995	02/16/1994		A61B 17/32	Anika Research, Inc.; Miller; David, Perez; Edward	Method for treating myopia





<a href="#">US5401508</a>	03/28/1995	04/30/1993	A61F 2/14	Allergan, Inc.; Manesis; Nick J.	Hydrogel compositions and structures made from same
<a href="#">US5391201</a>	02/21/1995	07/05/1994	A61F 2/14	Chiron IntraOptics, Inc.; Barrett; Graham D., Reich; Cary J.	Method of using a corneal ring inlay
<a href="#">US5713957</a>	02/03/1998	05/16/1996	11/19/1993 A61F 2/14	CIBA Vision Corporation; Steele; John Gerard, Holden; Brien A., Sweeney; Deborah, O'Leary; Dan, Schindhelm; Klaus, Vannas; Antti, Johnson; Graham.	Corneal onlays
<a href="#">US4810082</a>	03/07/1989	07/01/1987	G02C 7/04	None; Abel, Jr.; Robert	Corneal onlay lens
<a href="#">US5019097</a>	05/28/1991	11/22/1989	A61F 2/14	Allergan, Inc.; Knight; Patricia M, Bishop; Robert C.	Corneal onlay lenses and methods for attaching same
<a href="#">US4223984</a>	09/23/1980	04/04/1979	G02C 7/04	Opticol Corporation; Miyata; Teruo, Rubin; Albert L, Dunn; Michael W, Stenzel; Kurt H.	Collagen soft contact lens
<a href="#">US5292514</a>	03/08/1994	06/24/1992	A61F 2/14	Minnesota Mining and Manufacturing Company; Capecchi; John T., Heilmann; Steven M., Krepski; Larry RKwon; Oh-Seung, Olson; David B.	Azlactone-functional substrates, corneal prostheses, and manufacture and use thereof
<a href="#">US5139518</a>	08/18/1992	03/21/1990	A61F 2/14	None; White; Thomas C.	Methods employed in replacement of the corneal endothelium
<a href="#">US5628794</a>	05/13/1997	03/08/1996	A61F 2/14	None; Lindstrom; Richard L.	Multifocal corneal implant lens having a hydrogelo coating
<a href="#">US5431790</a>	07/11/1995	12/21/1993	C08K 5/00	Cedars-Sinai Medical Center; Nesburn; Anthony B, Gorin; Michael, Martinez; Marvin, Kenney; M. Cristina, Maguen; Ezra	Method of crosslinking amino acid containing polymers using photoactivatable chemical crosslinkers
<a href="#">US5332802</a>	07/26/1994	06/11/1992	A61K 37/12	Autogenesis Technologies, Inc. Kelman; Charles D, DeVore; Dale P.	Human collagen processing and autoimplant use
<a href="#">US5294314</a>	03/15/1994	02/22/1991	C07K 3/00	Cedars-Sinai Medical Center Nesburn; Anthony B., Gorin; Michael, Martinez; Marvin, Kenney; M. Cristina, Maguen; Ezra	Method of crosslinking amino acid containing polymers using photoactivatable chemical crosslinkers
<a href="#">US5024742</a>	06/18/1991	02/24/1988	B05D 3/06	Cedars-Sinai Medical Center Nesburn; Anthony B., Gorin; Michael, Martinez; Marvin, Kenney; M. Cristina, Maguen; Ezra	Method of crosslinking amino acid containing polymers using photoactivatable chemical crosslinkers
<a href="#">US4921908</a>	05/01/1990	03/28/1989	C08F 8/00	Minnesota Mining and Manufacturing Company Ofstead; Ronald F	Copolymers of poly(vinyl trifluoroacetate) or poly(vinyl alcohol)
<a href="#">US4883864</a>	11/28/1989	10/28/1988	A61K 31/78	Minnesota Mining and Manufacturing Company Scholz; Matthew T.	Modified collagen compound and method of preparation
<a href="#">US4840992</a>	06/20/1989	06/17/1987	C06F 16/06	Minnesota Mining and Manufacturing Company Ofstead; Ronald F.	Copolymers of poly(vinyl trifluoroacetate) or poly(vinyl alcohol)
<a href="#">US4693939</a>	09/15/1987	09/03/1986	B32B 27/00	Minnesota Mining and Manufacturing Company Ofstead; Ronald F.	Article coated with copolymer of poly(vinyl alcohol)
<a href="#">US4618649</a>	10/21/1986	05/08/1985	C08F	Minnesota Mining and	Copolymers of poly(vinyl



<a href="#">US4505855</a>	03/19/1985	09/30/1982	16/06	Manufacturing Company Ofstead; Ronald F	trifluoroacetate) or poly(vinyl alcohol)
<a href="#">US4500382</a>	02/19/1985	06/10/1983	C07G 7/00	Massachusetts Gen Hospital Brun; Romaine R., Gross; Jerome.	Transparent non-fibrilized collagen material by ultracentrifugation
<a href="#">US6090141</a>	07/18/2000	08/13/1997	B29C 19/02	Transilwrap Company, Inc. Foster; William J.	Method of manufacture of resin film precision biomedical article
<a href="#">US5123921</a>	06/23/1992	03/27/1991	A61F 2/14	None Lindstrom; Richard L	Small intracorneal lens
<a href="#">US4799931</a>	01/24/1989	05/14/1986	A61F 2/14	Nestle S.A. Werblin; Theodore P., Patel; Anilbhai S.	Synthetic intracorneal lines and method of manufacture
<a href="#">US5215104</a>	06/01/1993	03/20/1991	A61F 2/4 17/32	None Lindstrom; Richard L., Steinert; Roger F	Intracorneal lens Method for corneal modification



<a href="#">US6,849,210</a>	02/01/2005	03/06/2002	C08J 003/28	Novartis AG; Bothe; Harald, Muller	Process for the manufacture of moldings
<a href="#">US6,835,410</a>	12/28/2004	05/09/2002	A61L 027/00	Novartis AG; Chabreck; Peter, Leukel; Jorg, Lohmann; Dieter	Bottle-brush type coatings with entangled hydrophilic polymer
<a href="#">US6,811,805</a>	11/02/2004	05/22/2002	A61L 005/103	Novartis AG; Gilliard; Allen, Winterton; Lynn Cook, Andino; Rafeal Victor, Lally; John	Method for applying a coating
<a href="#">US6,770,728</a>	08/03/2004	10/31/2002	C08G 018/22	Menicon Co., Ltd; Wantanabe; Tsuyoshi, Ito; Eri, Tanikawa; Sadayasu, Ichinohe; Shoji, Yamazaki; Toshio, Lamrani; Mouad	Process for preparing ocular lens with urethane compound and process for preparing urethane compound for medical instruments
<a href="#">US6,734,321</a>	05/11/2004	06/20/2002	C07C 275/20	Novartis AG; Chabreck; Peter, Hopken; Jen, Lohmann; Dieter	Organic articles
<a href="#">US6,734,281</a>	05/11/2004	03/26/2002	C08G 075/00	Novartis AG; Hopken; Jen, Lohmann; Dieter	Organic polymers
<a href="#">US6,730,366</a>	05/04/2004	01/24/2002	C23C 014/28	Novartis AG; Lohmann; Dieter, Chabreck; Peter, Leukel; Jorg	Process for modifying a surface
<a href="#">US6,719,929</a>	04/13/2004	01/31/2001	B29D 011/00	Novartis AG; Winterton; Lynn Cook; Qiu; Yongxing; Lally; John Martin; Nicolson; Paul Clement	Method for modifying a surface
<a href="#">US6,713,524</a>	03/30/2004	03/09/2001	C08F 002/50	Novartis AG; Leukel; Jorg, Chabreck; Peter Lohmann; Dieter	Reactive polymers
<a href="#">US6,689,165</a>	02/10/2004	03/30/2001	A61F 002/14	Board of Supervisors of Louisiana State University and Agricultural; Jacob; Jean T., Bi; Jingjing	Surface modifications for enhanced epithelialization
<a href="#">US6,686,437</a>	02/03/2004	10/23/2001	C08G 073/10	M.M.A Tech Ltd.; Buchman; Alisa, Payne; Raymond G., Mendes; David G. Sibony; Simha, Bryant; Robert G.	Medical implants made of wear-resistant, high performance polyimides, process of making same and medical use of same
<a href="#">US6,663,668</a>	12/16/2003	06/14/1999	A61F 002/14	Novartis AG; Chaouk; Hassan, Meijs; Gordon Francis	Hydratable siloxane comprising porous polymers
<a href="#">US6,638,991</a>	10/28/2003	11/19/2001	C08F 002/50	Menicon Co., Ltd.; Baba; Masaki, Watanabe; Tsuyoshi, Nakada; Kazuhiko	Material for ocular lens
<a href="#">US6,589,665</a>	07/08/2003	05/30/2001	G02B 001/04	Novartis AG; Chabreck; Peter, Lohmann; Dieter, Leukel; Jorg, Winterton; Lynn Cook, Qiu; Yongxing, Lally; John Martin	Coated articles
<a href="#">US6,586,038</a>	07/01/2003	10/27/2000	G02B 001/10	Novartis AG; Chabreck; Peter, Lohmann; Dieter	Process for the modification of a material surface
<a href="#">US6,582,754</a>	06/24/2003	10/27/2000	B05D 001/38	Novartis AG; Pasic; Paul, Griesser; Hans Jorg, Kambouris; Peter, Chabreck; Peter	Coating Process
<a href="#">US6,555,103</a>	04/29/2003	08/14/2001	A61K 031/74	Novartis AG; Leukel; Jorg, Chabreck; Peter Lohmann; Dieter	Biomedical Moldings
<a href="#">US6,537,808</a>	03/25/2003	10/25/1999	C12N 005/00	Anabasis S.R.L.; Lambiase; Alessandro	Use of nerve growth factor for the storage, culture or treatment of cornea
<a href="#">US6,533,415</a>	03/18/2003	03/19/2001	G02C 007/04	Menicon Co., Ltd.; Watanabe; Tsuyoshi	Ocular lens material having hydrophilic surface and process for preparing the same



<a href="#">US6,521,352</a>	02/18/2003	10/27/2000	B32B 027/28	Novartis AG; Chabreck; Peter Lohmann; Dieter	Process for the modification of a material surface
<a href="#">US6,503,958</a>	01/07/2003	08/14/2001	C08J 009/28	Novartis AG; Hughes; Timothy Charles, Meijs; Gordon Francis, Chaouk; Hassan, Steele; John Gerard, Johnson; Graham	Biomaterials
<a href="#">US6,472,489</a>	10/29/2002	11/18/1999	C08F 026/00	Novartis AG; Stockinger; Friedrich	Polymers
<a href="#">US6,468,667</a>	10/22/2002	06/30/2000	A61F 002/16	Novartis AG; Chabreck; Peter, Lohmann; Dieter, Streiff; Markus	Ophthalmic Molding
<a href="#">US6,447,920</a>	09/10/2002	10/27/2000	G02C 007/04	Novartis AG; Chabreck; Peter, Hopken; Jens, Lohmann; Dieter	Organic articles
<a href="#">US6,447,118</a>	09/10/2002	05/11/2000	G02C 007/04	None; Okumura; Akiko, Nakada; Kazuhiko	Optical water-absorptive gel and ophthalmic material using the same
<a href="#">US6,444,776</a>	09/03/2002	12/21/1999	C08G 077/26	Novartis AG; Holland; Troy Vernon, Hirt; Thomas, Schremmer; Jacalyn Mary, Baron; Richard Carlton, Terry, Jr.; Wilson Leonard, Molenberg; Aaldert Rens	Organic polymers
<a href="#">US6,440,167</a>	08/27/2002	01/16/2001	A61F 005/00	Tapic International Co., Ltd.; Shimizu; Yasuhiko	Collagen material and its production process
<a href="#">US6,631,562</a>	10/14/2003	10/13/2000	B21D 053/88	Ford Global Technologies, LLC; Balzer; Jason Scott, Maj; Michael Henry; Dellock; Paul Kenneth	Biomaterials
<a href="#">US6,706,036</a>	03/16/2004	03/05/2001	A61B 018/18	None; Lai; Shui T.	Method and apparatus for surgery of the cornea using short laser pulses having shallow ablation depth
<a href="#">US6,780,899</a>	08/24/2004	10/24/2002	A61F 002/14	Medennium, Inc.; Liao; Xiugao, Gulati; Vijay	Homopolymers containing stable elasticity inducing crosslinkers and ocular implants made therefrom
<a href="#">US6,733,526</a>	05/11/2004	04/25/2002	A61F 002/14	Advanced Medical Optics, Inc.; Paul; Marlene L., Glick; Robert	Method of improving adherence and centering of intra-corneal implants on corneal bed
<a href="#">US6,653,420</a>	11/25/2003	01/05/2001	C08F 026/06	Novartis AG; Domschke; Angelika Maria, Francis; Vimala Mary	Porous Hydrogels
<a href="#">US6,537,569</a>	03/25/2003	02/14/2001	A61F 002/02	MicroVention, Inc., Cruise; Gregory M.	Radiation cross-linked hydrogels
<a href="#">US6,503,958</a>	01/07/2003	08/14/2001	C08J 009/28	Novartis AG; Hughes; Timothy Charles, Meijs; Gordon Francis, Chaouk; Hassan, Steele; John Gerard, Johnson; Graham	Biomaterials
<a href="#">US6,468,667</a>	10/22/2002	06/30/2000	A61F 002/16	Novartis AG; Chabreck; Peter, Lohmann; Dieter, Streiff; Markus	Ophthalmic molding
<a href="#">US6,454,800</a>	09/24/2002	02/12/2001	A61F 002/14	Dalton; Beatrice Ann, Steele; John Gerard, Evans; Margaret Diana Macrea, Fitton; Janet Helen, Johnson; Graham, Gipson; Ilene Kay	Corneal Onlay
<a href="#">US6,846,897</a>	01/25/2005	05/18/2004	C08G 077/00	Bausch and Lomb, Inc.; Salamone; Joseph C., Kunzler; Jay F., Ozark; Richard M., Seelye; David E., Vanderbilt; David P.	High refractive index aromatic-based silyl monomers
<a href="#">US6,827,885</a>	12/07/2004	03/27/2001	B29D	Altmann; Griffith E.,	Methods and devices to control



			011/00	Armstrong; Lisa A., Beebe; Kevin D., Cox; Ian G., Huang; Horngyih, Lesczynski; Michael A., Martin; Arthur W., Moran; Michelle L., Papalia; Joseph, Ruscio; Dominic V.	polymerisation
<a href="#">US6,702,983</a>	03/09/2004	05/15/2001	A61L 002/00	Bausch & Lomb Incorporated; Hu; Zhenze, Salamone; Joseph C., Borazjani; Roya	Low ionic strength method and composition for reducing bacterial attachment to biomaterials
<a href="#">US6,679,605</a>	01/20/2004	02/28/2001	G02C 007/02	Medennium, Inc.; Zhou; Stephen Q., Wilcox; Christopher D., Liao; Christine, Valyunin; Igor	Crystalline polymeric compositions for ophthalmic devices
<a href="#">US6,609,793</a>	08/26/2003	05/23/2001	A61B 003/10	Pharmacia Groningen BV; Norrby, Sverker; Artal, Pablo, Piers; Patricia Ann, Van Der Mooren; Marrie	Methods of obtaining ophthalmic lenses proving the eye with reduced aberrations
<a href="#">US6,605,093</a>	08/12/2003	01/05/2000	A61F 009/00	Tekia, Inc.; Blake; Larry W.	Device and method for use with an ophthalmologic insertor apparatus
<a href="#">US6,595,639</a>	07/22/2003	11/10/2000	G02C 007/02	Ocular Sciences, Inc.; Ho; Arthur, Back; Arthur	Junctionless ophthalmic lenses and methods for making same
<a href="#">US6,592,621</a>	07/15/2003	11/10/2000	A61F 002/16	None; Domino; Rudolph S	Flexible intra-ocular lens of variable focus
<a href="#">US6,544,286</a>	04/08/2003	07/08/2000	A61F 002/14	Tissue Engineering Refraction, Inc.; Perez; Edward	Pre-fabricated corneal tissue lens method of corneal overlay to correct vision
<a href="#">US6,436,481</a>	08/20/2002	06/22/1999	C08J 007/18	Novartis AG; Chabreck; Peter, Lohmann; Dieter	Method of producing a reactive coating by after-glow plasma polymerisation
<a href="#">US6,827,966</a>	12/07/2004	05/22/2002	B05D 003/00	Novartis AG; Qiu; Yongxing, Carney; Fiona Patricia, Kotov; Nichola (Stillwater, OK); Lally; John Martin (Lilburn, GA); Morris; Carol Ann (Duluth, GA); Winterton; Lynn Cook (Alpharetta, GA)	Diffusion-controllable coatings on medical device
<a href="#">US6,780,930</a>	08/24/2004	11/15/2001	C08F 002/18	Biocompatibles UK Limited; Lewis; Andrew Lennard, Hughes; Laurence Gerald	Polymers and polymerisation processes
<a href="#">US6,555,103</a>	04/29/2003	08/14/2001	A61K 031/74	Novartis AG; Leukel; Jorg, Chabreck; Peter, Lohmann; Dieter	Biomedical moldings
<a href="#">US6,454,800</a>	09/24/2002	02/12/2001	A61F 002/14	Novartis AG; Dalton; Beatrice Ann, Steele; John Gerard, Evans; Margaret Diana Macrea, Fitton; Janet Helen, Johnson; Graham, Gipson; Ilene Kay	Corneal Onlay
<a href="#">US6,436,481</a>	08/20/2002	06/22/1999	C08J 007/18	Novartis AG; Chabreck; Peter, Lohmann; Dieter	Method of producing a reactive coating by after-glow plasma polymerization

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