

SEARCH HISTORY

Application Number	PCT/US 18/48910
Search Conducted By	EU
Search Approved By	ALK

US/IPC Classifications Searched	IPC(8): A61N 5/06,5/067; A61F 9/007, 9/008,9/013 (2018.01) CPC: A61N 5/06, A61N 5/0613, A61N 5/0622, A61N 2005/0648, A61N 2005/0659, A61N 2005/0661, A61N 2005/0662, A61N 2005/067; A61F 9/007, A61F 9/00781, A61F 9/0079, A61F 9/008, A61F 9/00802, A61F 9/00804, A61F 9/00814, A61F 9/00821, A61F 9/00823, A61F 9/00825, A61F 9/00827, A61F 9/013, A61F 2009/00842, A61F 2009/00861, A61F 2009/00863, A61F 2009/00872, A61F 2009/00885, A61F 2009/00891
Date Conducted	10 December 2018 (10.12.2018)

Documentation Searched	IPC(8): A61N 5/06,5/067; A61F 9/007, 9/008,9/013 (2018.01) CPC: A61N 5/06, A61N 5/0613, A61N 5/0622, A61N 2005/0648, A61N 2005/0659, A61N 2005/0661, A61N 2005/0662, A61N 2005/067; A61F 9/007, A61F 9/00781, A61F 9/0079, A61F 9/008, A61F 9/00802, A61F 9/00804, A61F 9/00814, A61F 9/00821, A61F 9/00823, A61F 9/00825, A61F 9/00827, A61F 9/013, A61F 2009/00842, A61F 2009/00861, A61F 2009/00863, A61F 2009/00872, A61F 2009/00885, A61F 2009/00891
Search Terms Used	Light, laser, illuminate, irradiate, direct, shift, redirect, reflect, guide, prism, mirror, away, different, separate, surrounding, retina, fovea, two, second, multiple, several, plurality, area, region, focus, focal, distribute, redistribute, photodisruption, photoionization, photoablation, keratoplasty, crosslink, paracentral, glaucoma, neuro, treat, compensate, iol, lens, amblyopia, photovitirifaction, cornea, natural, intuitive, training, learning, decrease, increase, photoreceptor, loss, sensilivily,
Date Conducted	10 December 2018 (10.12.2018)

Electronic Database Searched	Google Web
Files Searched	
Date Conducted	10 December 2018 (10.12.2018)

Search Logic:	
<p>(retina OR fovea) AND (redirect OR refract OR prism OR displace OR shift) AND (focus OR focal) AND (light OR beam OR illumination OR irradiation) about 6,360,000 results (0.91 seconds) (Reviewed first 160 results)</p>	
<p>(retina OR fovea) AND redirect AND functioning AND (focus OR focal) AND (light OR beam OR illumination OR irradiation) Page 14 of about 137 results (0.78 seconds)</p>	
<p>(retina OR fovea) AND redirect AND (two OR second OR three OR third OR multiple OR several OR plurality) AND (Region OR area) AND (focus OR focal) AND (light OR beam OR illumination OR irradiation) Page 16 of about 155 results (0.75 seconds)</p>	
<p>((contact lens) OR (intraocular lens)) AND (Treat OR compensate) AND amblyopia About 7 results (0.51 seconds)</p>	
<p>(Treat OR compensate) AND (corneal photovitrification) About 8 results (0.90 seconds)</p>	
<p>((contact lens) OR (intraocular lens)) AND (Treat OR compensate) AND degeneration AND ((increase retianl sensitivity) OR (decrease retinal sensitivity loss) OR (decrease photoreceptor loss) OR (decrease drusen volume) OR (Regenerate retinal cells)) About 9 results (0.68 seconds)</p>	
<p>((contact lens) OR (intraocular lens) OR prism OR spectacles OR glasses) AND (Treat OR compensate) AND ((increase retianl sensitivity) OR (decrease retinal sensitivity loss) OR (decrease photoreceptor loss) OR (decrease drusen volume) OR (Regenerate retinal cells)) Page 2 of about 17 results (0.50 seconds)</p>	

Electronic Database Searched	Patbase
Files Searched	Full-text: AU BE BR CA CH CN DE DK EP ES FI FR GB IN JP KR SE TH TW US WO Bibliographic: (Europe) AT BAKey BE BG CH CS CY CZ DD DK EE ES FI GE GR HR HU IE IS IT LT LU LV MC MD MT NL NO PL PT RO RS SE SI SK SM TR UA YU (Asia) EA GC HK ID IL IN KZ MN MY PH RU SG SU TH TJ TW UZ VN (North America) CA CR CU DO GT HN MX NI PA SV TT (South America) AR BR CL CO EC PE UY (Australasia) AU NZ (Africa) AP DZ EG KE MA MW OA ZA ZM ZW
Date Conducted	6 December 2018 (6.12.2018)-7 December 2018 (7.12.2018), 10 December 2018 (10.12.2018)
Search Logic:	
1) inv=((SERDAREVIC Olivia) or (berry michael) or (heller donald f) or (berry II Michael j) or (yavitz edward)) (142) 2) pa=((SERDAREVIC Olivia) or (berry michael) or (heller donald f) or (berry II Michael j) or (yavitz edward)) (87)	

- 3) ic=(A61N5/06 or A61N5/067 or A61F9/007 or A61F9/008 or A61F9/013) (51824)
- 4) cpc=(A61N5/06 or A61N5/0613 or A61N5/0622 or A61N2005/0648 or A61N2005/0659 or A61N2005/0661 or A61N2005/0662 or A61N2005/067 or A61F9/007 or A61F9/00781 or A61F9/0079 or A61F9/008 or A61F9/00802 or A61F9/00804 or A61F9/00814 or A61F9/00821 or A61F9/00823 or A61F9/00825 or A61F9/00827 or A61F9/013 or A61F2009/00842 or A61F2009/00861 or A61F2009/00863 or A61F2009/00872 or A61F2009/00885 or A61F2009/00891) (13949)
- 5) 3 or 4 (53435)
- 6) 5 and ft=((light% or laser% or illuminat* or irradiat*) w10 ((direct* or redirect* or reflect* or guid* or prism% or mirror%) and (away* or differ* or separat* or surround*) and (retina% or fovea%))) (38)
- 7) pn=(US2011299029) (1)
- 8) ctb 7 or ctf 7 (12)
- 9) 5 and ft=((direct* or redirect* or reflect* or guid* or prism% or mirror%) w7 ((two or second or multipl* or several* or plural* or three or third) and (away* or differ* or separat* or surround*) and (retina% or fovea%))) (4)
- 10) 5 and ft=((direct* or redirect* or reflect* or guid* or prism% or mirror%) w7 ((two or second or multipl* or several* or plural* or three or third) and (away* or differ* or separat* or surround*) and (region% or area%))) and (retina% or fovea%)) (7)
- 11) 5 and ft=((direct* or redirect* or reflect* or guid* or prism% or mirror%) w7 ((two or second or multipl* or several* or plural* or three or third or split*) and (light* or illuminat* or irradiat* or radiat*) and (retina% or fovea%))) (27)
- 12) 11 not (10 or 8 or 6) (24)
- 13) 5 and sp=((direct* or redirect* or reflect* or guid* or prism% or mirror%) and (region% or area%) and ((two or second or multipl* or several* or plural* or three or third or split*) and (light* or illuminat* or irradiat* or radiat*) and (retina% or fovea%))) (313)
- 14) 13 and ft=((shift* or redirect* or reflect* or guid* or prism% or mirror% or displac*) w5 ((focus* or focal* or imag*) and (retina% or fovea%))) (28)
- 15) 14 not (11 or 10 or 8 or 6) (14)
- 16) 13 and ft=((shift* or redirect* or reflect* or guid* or prism% or mirror% or displac*) w5 ((light* or illuminat* or irradiat* or radiat*) and (retina% or fovea%))) (56)
- 17) 16 not (14 or 11 or 10 or 8 or 6) (28)
- 18) 5 and ft=((shift* or redirect* or reflect* or guid* or prism% or mirror% or displac*) w5 ((light* or illuminat* or irradiat* or radiat*) and (two or second or multipl* or several* or plural* or three or third or split*) and (area% or region% or focus* or focal*))) (58)
- 19) 18 not (16 or 14 or 11 or 10 or 8 or 6) (56)
- 20) 5 and ft=((distribut* or redistribut*) w5 ((light* or illuminat* or irradiat* or radiat*) and (two or second or multipl* or several* or plural* or three or third or split*) and (area% or region% or focus* or focal*))) (6)
- 21) 5 and sp=((shift* or redirect* or reflect* or guid* or prism% or mirror% or displac*) and (light* or illuminat* or irradiat* or radiat*) and (retina% or fovea%) and ((two or second or multipl* or several* or plural* or three or third or split*) w3 (area% or region% or focus* or focal*))) (56)
- 22) 21 not (16 or 14 or 18) (33)
- 23) ft=((light% or laser% or illuminat* or irradiat*) w10 ((direct* or redirect* or reflect* or guid* or prlsm% or mirror%) and (away* or differ* or separat* or surround*) and (retina% or fovea%))) (303)
- 24) 23 and ft=((direct* or redirect* or reflect* or guid* or prism% or mirror% or displac* or shift*) w7 ((two or second or three or third or multipl* or several* or plural*) and (differ* or separa*) and (area% or region% or portion%))) (15)
- 25) 23 and ft=((direct* or redirect* or reflect* or guid* or prism% or mirror% or displac* or shift*) w7 ((two or second or three or third or multipl* or several* or plural*) and (area% or region% or portion%))) (65)
- 26) 25 not 24 (50)
- 27) pn=(US2015297342) (1)

- 28) ctb 27 or ctf 27 (178)
 29) 28 not (25 or 21 or 18 or 16) (168)
 30) 23 and ft=(photovitrif*) (0)
 31) 23 and ft=(photo vitrif*) (0)
 32) ft=((direct* or redirect* or reflect* or guid* or prism% or mirror% or displac* or shift*) w10 ((light* or beam% or illuminat* or irradiat* or radiat*) and function* and (retina% or fovea%))) (74)
 33) 32 not (25 or 21 or 18 or 16) (65)
 34) ft=((direct* or redirect* or reflect* or guid* or prism% or mirror% or displac* or shift*) w10 ((light* or beam% or illuminat* or irradiat* or radiat*) and (retina% or fovea%))) (4338)
 35) 34 and ft=((photovitrif*) and (photo vitrif*)) (0)
 36) 34 and ft=((cornea% or intralenticular*) w2 (photodisrupt* or photoioni* or photoablat* or keratoplasty or crosslink*)) (29)
 37) 34 and ft=((thermal cornea%) w3 laser%) (0)
 38) 34 and ft=((reflect* or mirror*) w10 paracentral) (3)
 39) 34 and ft=((fiber% or fibre%) w10 paracentral) (1)
 40) 23 and ft=((treat* or compensat*) w5 (glaucoma* or neuro*)) (9)
 41) 34 and ft=(((treat* or compensat*) w5 (glaucoma* or neuro*)) w10 (lens* or iol)) (2)
 42) 23 and ft=((treat* or compensat*) w3 amblyopia) (2)
 43) 34 and ft=((treat* or compensat*) w3 amblyopia) (15)
 44) 34 and ft=((treat* or compensat*) w7 amblyopia) (22)
 45) 44 not 43 (7)
 46) 34 and ft=((natural* or intuiti*) w5 (train* or learn*)) (9)
 47) 23 and ft=((natural* or intuiti*) w5 (train* or learn*)) (0)
 48) 34 and sp=(((decreas* w5 (photorecept* and los*) or (decreas* w5 (sensitiv* and los*)) or (increas* w5 (retin* and sensitiv*)) or (decreas* w5 (drusen and los*))) and (lens* or glasses or spectacle% or iol%)) (2)
 49) 34 and sp=((decreas* w5 (cone% and los*)) and (lens* or glasses or spectacle% or iol%)) (0)
 50) sp=(((decreas* w5 (photorecept* and los*)) or (decreas* w5 (sensitiv* and los*)) or (increas* w5 (retin* and sensitiv*)) or (decreas* w5 (drusen and los*))) and (lens* or glasses or spectacle% or iol%)) (20)
 51) 34 and sp=((decreas* w5 (photorecept* and los*)) or (decreas* w5 (retina% and sensitiv* and los*)) or (increas* w5 (retin* and sensitiv*)) or (decreas* w5 (drusen and los*)) or (regenerat* w5 (retin* and cell%))) (29)
 52) 51 not (50 or 48) (27)
 53) 51 and ft=(stem cell%) (6)
 54) 34 and ft=(lens* w6 ((insert* or implant*) and (phakic or aphakic or pseudophakic))) (26)
 55) sp=(((treat* or compensat*) w7 amblyopia) and (iol or (intraocular lens*))) (2)
- 1) inv=((SERDAREVIC Olivia) or (berry michael) or (heller donald f) or (berry II Michael j) or (yavitz edward)) (142)
 2) pa=((SERDAREVIC Olivia) or (berry michael) or (heller donald f) or (berry II Michael j) or (yavitz edward)) (87)
 3) lc=(A61N5/06 or A61N5/067 or A61F9/007 or A61F9/008 or A61F9/013) (51910)
 4) cpc=(A61N5/06 or A61N5/0613 or A61N5/0622 or A61N2005/0648 or A61N2005/0659 or A61N2005/0661 or A61N2005/0662 or A61N2005/067 or A61F9/007 or A61F9/00781 or A61F9/0079 or A61F9/008 or A61F9/00802 or A61F9/00804 or A61F9/00814 or A61F9/00821 or A61F9/00823 or A61F9/00825 or A61F9/00827 or A61F9/013 or A61F2009/00842 or A61F2009/00861 or A61F2009/00863 or A61F2009/00872 or A61F2009/00885 or A61F2009/00891) (13968)
 5) 3 or 4 (53523)
 6) 5 and ft=((treat* or heal* or compensat*) w5 retina*) (1057)
 7) 6 and sp=(((treat* or heal* or compensat*) and (((stem cell%) or genetic or epigenetic or

- optogenetic) w7 therap*)) (20)
- 8) 7 and ft=((contact lens* or (intraocular lens*) or iol) (4)
- 9) 6 and sp=((treat* or heal* or compensat*) and ((adrenergic agonist) or (beta blocker) or carbonic anhydrase inhibitor) or (ca2+ channel blocker) or (cholinesterase inhibitor) or (prostaglandin) or (prostamide or cannabinoid or (rho kinase inhibitor) or (adenosine receptor agonist) or (glutamate antagonist))) (30)
- 10) 9 and ft=((contact lens* or (intraocular lens*) or iol) (9)
- 11) 9 and ft=(regenerat*) (8)
- 12) 6 and ft=(aflibercept and ranibizumab and bevacizumab and brolucizumab) (0)
- 13) ft=((treat* or heal* or compensat*) w5 retina*) (7133)
- 14) 13 and ft=(aflibercept and ranibizumab and bevacizumab and brolucizumab) (5)
- 15) 7 and sp=((treat* or heal* or compensat*) and ((adrenergic agonist) or (beta blocker) or carbonic anhydrase inhibitor) or (ca2+ channel blocker) or (cholinesterase inhibitor) or (prostaglandin) or (prostamide or cannabinoid or (rho kinase inhibitor) or (adenosine receptor agonist) or (glutamate antagonist))) (6)

Electronic Database Searched	Google Scholar
Files Searched	All files excluding patents
Date Conducted	6 December 2018 (6.12.2018)-7 December 2018 (7.12.2018), 10 December 2018 (10.12.2018)

Search Logic:

author:SERDAREVIC author:Olivia
About 20 results (0.03 sec)

author:yavitz author:Edward
10 results (0.09 sec)

(retina OR fovea) AND redirect AND (two OR second OR three OR third OR multiple OR several OR plurality) AND (Region OR area) AND (focus OR focal) AND (light OR beam OR illumination OR irradiation)
About 9,540 results (0.08 sec) (Reviewed first 110 results)

((contact lens) OR (intraocular lens)) AND (Treat OR compensate) AND amblyopia
About 7,870 results (0.06 sec (reviewed first 100 results)

(Treat OR compensate) AND (corneal photovitrification)
Your search - (Treat OR compensate) AND (corneal photovitrification) - did not match any articles

((contact lens) OR (intraocular lens)) AND (Treat OR compensate) AND degeneration AND ((increase retinal sensitivity) OR (decrease retinal sensitivity loss) OR (decrease photoreceptor loss) OR (decrease drusen volume) OR (Regenerate retinal cells))
About 900 results (0.14 sec) (Reviewed first 110 results)

((contact lens) OR (intraocular lens) OR prism OR spectacles OR glasses) AND (Treat OR compensate) AND ((increase retinal sensitivity) OR (decrease retinal sensitivity loss) OR (decrease photoreceptor loss) OR (decrease drusen volume) OR (Regenerate retinal cells))
About 1,040 results (0.11 sec) (reviewed first 130 results)

Supplemental SAO searching:

Electronic Database Searched	PatBase
Files Searched	Full-text: AU BE BR CA CH CN DE DK EP ES FI FR GB IN JP KR SE TH TW US WO Bibliographic: (Europe) AT BA BE BG CH CS CY CZ DD DK EE ES FI GE GR HR HU IE IS IT LT LU LV MC MD MT NL NO PL PT RO RS SE SI SK SM TR UA YU (Asia) EA GC HK ID IL IN KZ MN MY PH RU SG SU TH TJ TW UZ VN (North America) CA CR CU DO GT HN MX NI PA SV TT (South America) AR BR CL CO EC PE UY (Australasia) AU NZ (Africa) AP DZ EG KE MA MW OA ZA ZM ZW
Date Conducted	13 December 2018 (13.12.2018)
Search Logic:	

- 1) (eye% or eyeball% or ophthalmology or retina or fovea or sight) (1000000)
- 2) 1 and (lens or IOD or IOL or intraocular or implant) (237058)
- 3) 2 and (lens or IOD or IOL or intraocular or implant) near (reflect* or direct~ or redirect~ or redirection or prism or bend~ or bent or mirror% or prism%) (63274)
- 4) 3 and (retina or retinal or fovea) (9152)
- 5) 4 and (irradiance or light or focus~) near (distribut* or spread~ or separat* or distribut* or redistribut* or direct~ or redirect~) (5447)
- 6) 5 and (IOL or IOLAD or intraocular) (1007)
- 7) 6 and (retina or retinal or fovea) near (distribut* or spread~ or separat* or distribut* or redistribut* or direct~ or redirect~) (277)
- 8) 7 and (idm or (irradiance w/2 distribution)) (6)
- 9) 7 and fovea (92)
- 10) 9 and fovea near (distribut* or spread~ or separat* or distribut* or redistribut* or direct~ or redirect~ or away) (27)
- 11) 7 and laser (190)
- 12) 7 and (RF or radio or radiofrequency) (80)
- 13) 11 or 12 (205)
- 14) 13 and (photodissociation or ablat* or photoablat* or photoactivat* or vitrif* or photovitrif*) (53)
- 15) 7 and train~ (71)
- 16) 7 and learn~ (36)