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- (71) Applicant (for all designated States except US):  
CORNOVA, INC. [US/US]; 21 A Street, Burlington,  
Massachusetts 01803 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): TANG, Jing  
[US/US]; 29B Winter Street, Arlington, MA 02474 (US).
- (74) Agents: COLLINS, Timothy P. et al.; Mills & Onello  
Llp, 11 Beacon Street, Suite 605, Boston, MA 02108  
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(54) Title: SYSTEMS AND METHODS FOR ANALYSIS AND TREATMENT OF A BODY LUMEN

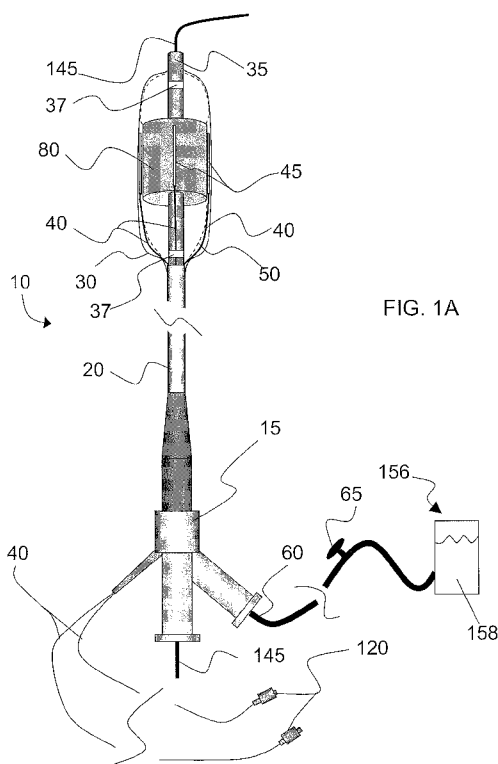


FIG. 1A

(57) Abstract: A catheter is provided for placement within a body lumen, the catheter including a flexible conduit that is elongated along a longitudinal axis, the flexible conduit having a proximal end and a distal end. The catheter further includes at least one delivery waveguide and at least one collection waveguide positioned along the flexible conduit, the at least one delivery waveguide and the at least one collection waveguide constructed and arranged to transmit radiation at a wavelength in a range of about 250 to 2500 nanometers. The catheter further includes a flexible, expandable first surface encircling surrounding a segment of the conduit, a transmission output of the at least one delivery waveguide and a transmission input of the at least one collection waveguide located within the flexible, expandable first surface, and the distal end of at least one of the at least one delivery waveguide and the at least one collection waveguide tethered to the flexible, expandable first surface radially translatable with respect to the flexible, expandable first surface, the at least one transmission input located between a portion of the flexible, expandable first surface and a portion of the second surface.

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**B. FIELDS SEARCHED**

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Korean Utility models and applications for Utility models since 1975

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) &amp; keywords : catheter, body lumen, waveguide, balloon, optical fiber

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007-0078500 A1 (ERIC S. RYAN et al.)05 April 2007 See claims 1-122 , figs. 1-20 , abstract.	1 - 111
A	US 6,149,575 A1 (HOWARD J. LEONHARDT) 21 November 2000 See the whole document.	1 - 111
A	US 6,224,535 B1 (JESSICA G. CHIU et al.) 01 May 2001 See the whole document.	1 - 111
A	US 6,196,996 B1 (PAUL S. TEIRSTEIN) 06 March 2001 See the whole document.	1 - 111

 Further documents are listed in the continuation of Box C. See patent family annex.

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