



US006124425A

United States Patent [19]
Nguyen

[11] **Patent Number:** **6,124,425**
[45] **Date of Patent:** **Sep. 26, 2000**

[54] **THERMALLY REACTIVE NEAR INFRARED ABSORPTION POLYMER COATINGS, METHOD OF PREPARING AND METHODS OF USE**

5,360,899	11/1994	Nussstein et al. .	
5,362,812	11/1994	Holmes et al. .	
5,547,819	8/1996	Ohno et al.	430/522
5,569,573	10/1996	Takahashi et al. .	
5,595,854	1/1997	Leenders et al. .	
5,665,524	9/1997	Kashio et al. .	
5,741,620	4/1998	Holmes et al. .	
5,824,768	10/1998	Burns et al. .	

[75] Inventor: **My T. Nguyen**, Kirkland, Canada

[73] Assignee: **American Dye Source, Inc.**, Mount Royal, Canada

FOREIGN PATENT DOCUMENTS

[21] Appl. No.: **09/275,032**

0 514 145 A1	of 0000	European Pat. Off. .
0 770 494 A2	of 0000	European Pat. Off. .
0 770 496 A1	of 0000	European Pat. Off. .
0 773 112 A1	of 0000	European Pat. Off. .
0 774 364 A1	of 0000	European Pat. Off. .
0 800 928 A1	of 0000	European Pat. Off. .
0 770 497 A1	2/1997	European Pat. Off. .
0 770 495 A1	5/1997	European Pat. Off. .
0 773 113 A1	5/1997	European Pat. Off. .
0 867 278 A1	9/1998	Germany .
1 489 308	10/1977	United Kingdom .
2 273 366	8/1998	United Kingdom .
0 652 483 A1	9/1994	WIPO .
WO 96/20429	7/1996	WIPO .
WO 97/39894	10/1997	WIPO .

[22] Filed: **Mar. 18, 1999**

[51] **Int. Cl.⁷** **C08G 73/00**

[52] **U.S. Cl.** **528/422; 528/205; 528/206; 528/208; 528/210; 528/212; 528/216; 528/218; 528/219; 430/118; 430/126; 430/127; 428/319.3; 428/423.3; 428/424.2; 428/491; 428/511; 428/913; 427/407.1; 427/408; 427/411; 427/316; 427/318; 101/453; 101/463.1; 101/470**

[58] **Field of Search** **528/422, 205, 528/206, 208, 210, 212, 216, 218, 219; 428/319.3, 423.3, 424.2, 491, 511, 913; 427/407.1, 408, 411, 316, 318; 101/453, 463.1, 470; 430/118, 126, 127**

OTHER PUBLICATIONS

U.S. application No. 08/922,714, Persley, filed Sep. 2, 1997.

Primary Examiner—Duc Truong

Attorney, Agent, or Firm—Goudreau Gage Dubuc

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,962,513	6/1976	Eames .
3,964,389	6/1976	Peterson .
4,046,946	9/1977	Shaw .
4,054,094	10/1977	Caddell et al. .
4,081,572	3/1978	Pacansky .
4,245,003	1/1981	Oransky et al. .
4,477,635	10/1984	Mitra .
4,501,876	2/1985	Zahr .
4,508,811	4/1985	Gravesteyn et al. .
4,555,475	11/1985	Gamson et al. .
4,666,819	5/1987	Elmasry .
4,680,375	7/1987	Elmasry .
5,085,972	2/1992	Vogel .
5,262,275	11/1993	Fan .
5,292,556	3/1994	Ma et al. .

[57]

ABSTRACT

Provided herein are novel polymeric coating materials for direct digital imaging by laser. More specifically the novel coating materials are thermally reactive near infrared absorption polymers designed for use with near infrared laser imaging devices. This invention further extends to the preparation and methods of use of the novel materials. The invention is particularly useful in the preparation of lithographic printing plates for computer-to-plate and digital-offset-press technologies. The invention extends to photoresist applications, to rapid prototyping of printed circuit boards and to chemical sensor development.

7 Claims, No Drawings