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(54) **CURABLE COMPOSITIONS WITH ANTIMICROBIAL PROPERTIES**

(75) Inventors: **R. Eric Montgomery**, Monterey, MA (US); **Salim A. Nathoo**, 577 S. Randolphville Rd., Piscataway, NJ (US) 08854

(73) Assignee: **Salim A. Nathoo**, Piscataway, NJ (US)

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(56) **References Cited**

U.S. PATENT DOCUMENTS

4,514,527		4/1985	Bowen	523/115
4,659,751		4/1987	Bowen	523/116
4,669,491	*	6/1987	Weisberg et al. .	
4,894,220		1/1990	Nabi et al.	424/52
4,966,934		10/1990	Huang et al.	524/315
4,978,391		12/1990	Jones	106/35
5,098,696		3/1992	Montgomery	424/61
5,270,351		12/1993	Bowen	523/116
5,276,068		1/1994	Waknine	522/28
5,338,773		8/1994	Lu et al.	523/116
5,340,850		8/1994	Shimasue	523/115
5,344,641		9/1994	Gaffar et al.	424/49
5,385,728		1/1995	Suh	424/54
5,424,058		6/1995	Rajaiah	424/49
5,665,333		9/1997	Homola et al.	424/54
5,676,745		10/1997	Kelly et al.	106/35
5,686,064		11/1997	Gaffar et al.	424/57
5,733,949		3/1998	Imazato et al.	523/109
5,738,843		4/1998	Montgomery	424/61
5,800,803		9/1998	Mirajkar	424/54
6,022,549	*	2/2000	Dyer .	

FOREIGN PATENT DOCUMENTS

223245	5/1987	(EP) .
381446	8/1990	(EP) .
705590	4/1996	(EP) .
3-118309	9/1989	(JP) .
03118309	5/1991	(JP) .
11049625	8/1997	(JP) .
WO 89/10113	11/1989	(WO) .
WO 89/10736	11/1989	(WO) .
WO 98/48766	11/1998	(WO) .

OTHER PUBLICATIONS

McCourtie, et al., Journal of Medical Microbiology, 21:209–213 (1986).
Addy, Journal of Oral Rehabilitation, 8:131–142 (1981).
Budtz–Jorgensen, et al., Scandinavian Journal of Dental Research, 91(2):134–142 (1983).
Imazato, et al., J. Dental Res. 73(8):1437–1443 (1994).
Addy, et al., Journal of Oral Rehabilitation, 8:155–163 (1981).
Addy, et al., J. Oral Rehab. 6:111–117 (1979).
Imazato, et al., J. Osaka Univ. Dent. Sch. 35:5–11 (1995).
Chapters 11, 12 and 13 in Phillip's Science of Dental Materials, K.J. Anasavice, ed. 10th Ed., 1996 (pp. 237–313).
Barry, et al., "Susceptibility Tests: Diffusion Test Procedures," in Manual of Clinical Microbiology, 5th Ed. (Hausler, et al., eds.), Am. Soc. Microbiology (Washington), 1991.
"Green Monsters" in *Nails* (Nov. 1997).
Ehara, et al., J. Dent. Res. 79(3):824–828 (2000).

* cited by examiner

Primary Examiner—Peter Szekely
(74) *Attorney, Agent, or Firm*—Lerner, David, Littenberg, Krumholz & Mentlik, LLP

(57) **ABSTRACT**

Novel curable compositions are disclosed which include a water insoluble antimicrobial agent. The curable compositions are useful in inhibiting the growth of bacteria on the surface of the curable composition, within the curable compositions and in a volume adjacent to the curable composition.

6 Claims, 1 Drawing Sheet