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APPENDICES

APPENDIC A

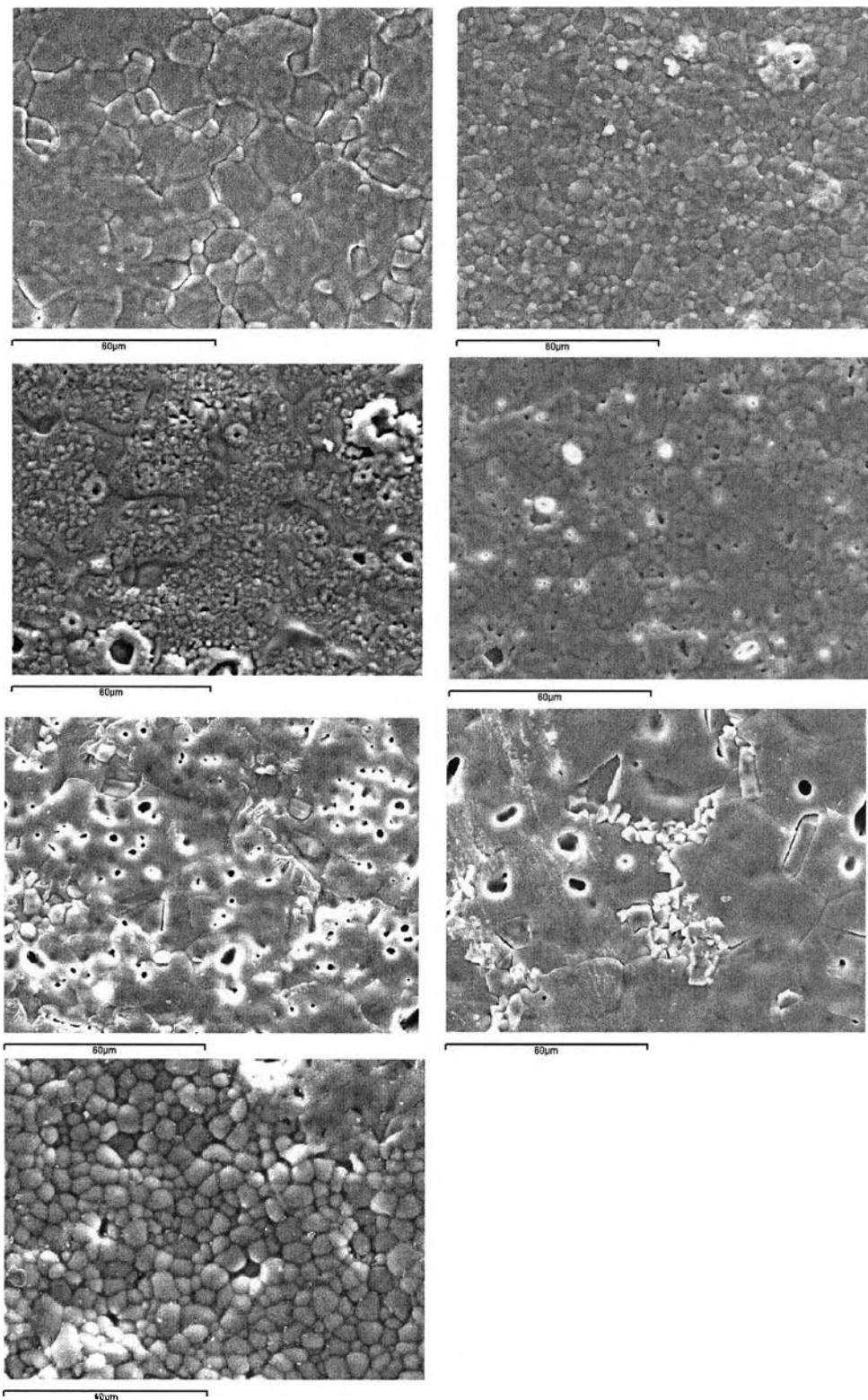


Figure 1 SEM micrographs of HA and HA with glass frit additive sintered at 1300 °C.

APPENDIC B

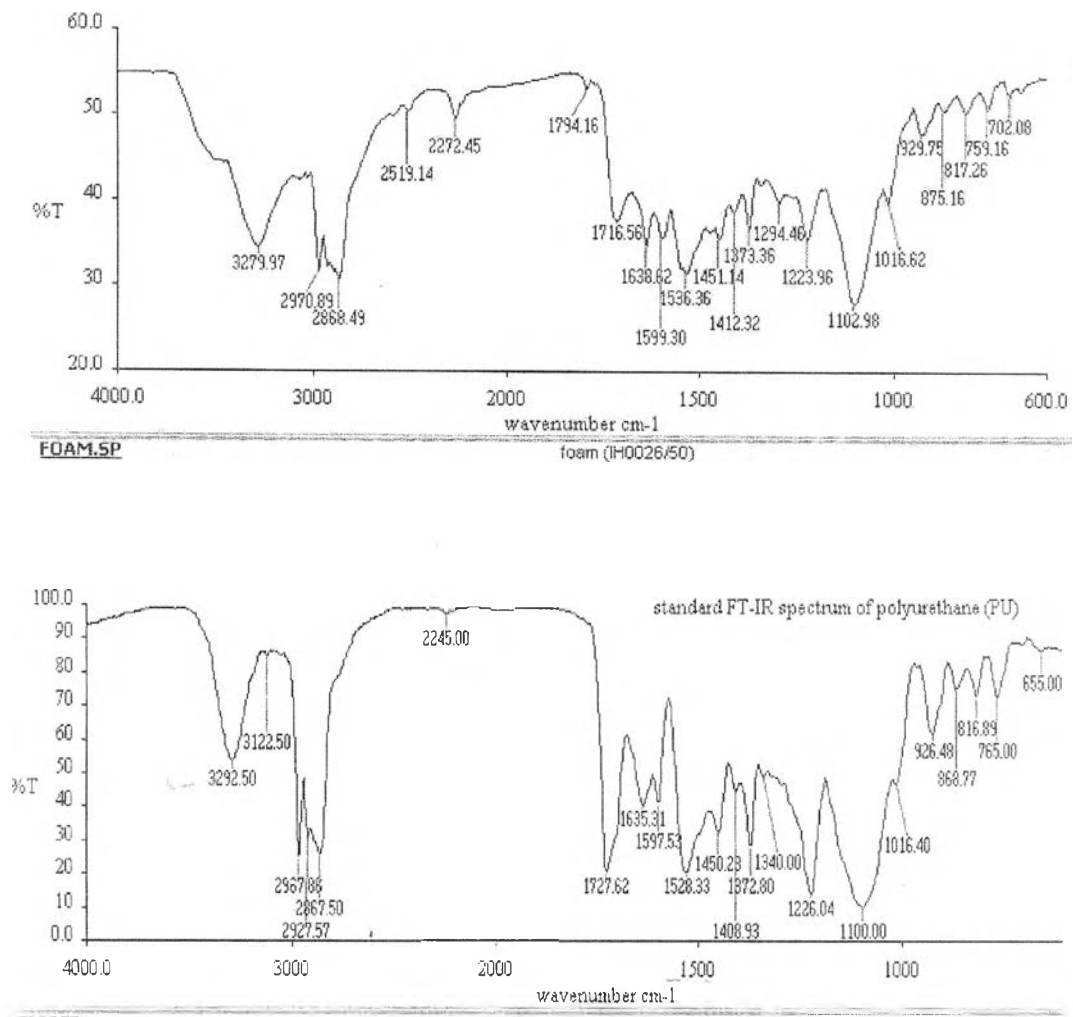


Figure 2 FT-IR patterns of polymer foam from (a) waste as replica foam and (b) a commercial polyurethane foam.

APPENDIX C

Table 1 Properties of porous HA with varied amount of SiO₂ additive using polymeric sponge method.

Properties	Temperature (°C)	Wt% SiO ₂				
		0.5	1.0	3.0	5.0	10.0
Density (g/cm ³)	1200	0.46	0.43	0.43	0.46	0.50
	1300	0.50	0.48	0.48	0.49	0.51
	1400	0.58	0.50	0.52	0.71	-
% Porosity	1200	85.59	86.49	86.46	85.56	84.11
	1300	84.31	84.73	84.84	84.45	82.75
	1400	81.75	84.17	83.65	77.56	-
Compressive strength (MPa)	1300	1.738	1.022	0.90	0.73	0.68
	1400	1.33	1.20	4.77	7.47	-

Table 2 Properties of porous HA with varied amount of glass frit additive using polymeric sponge method.

Properties	Temperature (°C)	Wt% glass additive						
		0	0.5	1.0	3.0	5.0	10.0	20.0
Density (g/cm ³)	1200	0.48	0.46	0.42	0.40	0.46	0.63	0.65
	1300	0.52	0.47	0.46	0.43	0.49	0.67	0.68
	1400	0.53	0.51	0.54	0.53	0.60	0.82	-
% Porosity	1200	48.70	85.22	86.69	87.24	85.34	80.20	79.34
	1300	83.79	85.03	85.60	86.37	84.37	79.39	78.44
	1400	83.29	83.89	82.98	83.36	81.05	74.10	-
Compressive strength (MPa)	1300	1.16	1.01	0.76	0.67	0.90	2.867	11.11
	1400	1.517	0.95	0.97	0.67	2.74	14.71	-

Remark: Property of porous HA with 20.0wt% glass frit additive sintered at 1400 °C could not be measured due to HA with 20.0wt% glass frit additive was melted.

BIOGRAPHY

Nudthakarn Kosachan was born on 15 March 1980 in Loei which is in a Northern Province of Thailand. She started her education at Nakhampom elementary school, and moved to study at Rongjig and Loei Pittayakhom for secondary school and high school respectively, in their science programs. She received a Bachelor's Degree of Science (BSc.) from the Faculty of Science and Technology, Rajabhat Loei University in May 2003. She then started working at the National Metal and Materials Technology Center (MTEC), Pathumthani, Thailand as a research assistant. During her working time at MTEC in 2005, she has been enrolled at Chulalongkorn University in the field of ceramic technology in the Science Faculty, Materials Science Department. She graduated in May 2008 and obtained her Master Degree of Science (MSc).

