



Curriculum Vitae

Name: Mr. Soottawat Benjakul

Date of Birth: August 23, 1967

Place of Birth: Trang, Thailand

ID. No. 3920200140236

Education:

1989	B.Sc. (Agro-Industry) 2nd Hons.	Prince of Songkla University, Thailand
1991	M.Sc. (Food Technology)	Prince of Songkla University, Thailand
1997	Ph.D. (Food Science and Technology)	Oregon State University, USA

Languages: Thai, English

Present employment:

Department of Food Technology
Faculty of Agro-Industry
Prince of Songkla University
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Positions:

2006-Present: Professor

2001-2005: Associate Professor

1998-2000: Assistant Professor

Visiting Professor:

Dalian Polytechnic University, P.R. China (since 2014)

Zhejiang Ocean University, P.R. China (since 2014)

Field of interest:

Seafood chemistry and biochemistry

Utilization of fish processing byproducts

Editorial Board for:

Journal of Food Biochemistry (2001-present)

Fisheries Science (2014-present)

Journal of Food Science (2015-present)

Associate Editor for:

International Aquatic Research (2010-present)

Journal of Coastal Development (2010-present)

Ad hoc Reviewer for:

Journal of Agricultural and Food Chemistry

Food Research International

Journal of Food Composition and Analysis

Comparative Biochemistry and Physiology Part B

Food Chemistry

Food Technology and Biotechnology

European Food Research and Technology

European Journal of Lipid Science and Technology

LWT-Food Science and Technology

Journal of Food Science

International Journal of Food Science and Nutrition

Journal of the Science of Food and Agriculture

Journal of the World Aquaculture Society

Journal of Food Quality

Journal of Muscle Foods

Journal of Food Processing and Preservation

Journal of Agricultural Science and Technology

Journal of Food Engineering

Food and Bioproducts Processing

International Journal of Food Science and Technology

International Aquatic Research

Process Biochemistry

International Journal of Molecular Sciences

CyTA-Journal of Food
Journal of Texture Studies
Journal of Applied Ichthyology
International Journal of Food Properties
Journal of Aquatic Food Product Technology
Food and Bioprocess Technology
Biotechnology progress
Aquaculture Research
Trends in Food Science and Technology
Italian Journal of Food Science
Fisheries Science
International Food Research Journal
Drying Technology
Biotechnology and Bioprocess Engineering
Applied Biochemistry and Biotechnology
International Journal of Refrigeration
Journal of Food Safety
Critical Reviews in Food Science and Nutrition
Journal of Functional Foods
Journal of Physical Science
Plant Foods for Human Nutrition
Journal of Ocean University of China
Food Technology and Biotechnology
Preparative Biochemistry and Biotechnology
Journal of Food Science and Technology
Food Bioscience
Food Packaging and shelf-life
Acta Alimentaria
Arabian Journal of Chemistry

Supportive experience:

-Participated in the regional workshop on 'The development and Application of HACCP in the Seafood Industry of Asia and the Pacific' sponsored by the United Nations Development Programme. The Food and Agriculture Organization of the United Nations and INFOFISH. 11-12 November 1991, Songkhla, Thailand.

-Participated in workshop on 'Full Utilization of Aquatic Resources' sponsored by Food and Agriculture Organization of the United Nations and Department of Fisheries. 23-30 September 1992, Bangkok, Thailand.

-Received British Council scholarship to conduct research on ‘Dogfish Liver Oil: Extraction and Chemical Analysis’ at University of Humberside, United Kingdom (February-March 1994).

-Received the collaborative research fund from Prince of Songkla University to conduct research on ‘Proteinase Inhibitors from Thai Legume Seeds: Characterization and their Uses as the Processing Aid in Surimi’ at Oregon State University Seafood Laboratory, Oregon, USA (July-August, 1998)

-Received British council scholarship for research visit on ‘Antioxidant and Lipid Oxidation’ at University of Reading, UK (October-November, 1998)

-Received Scholarship under Thailand-Austria Scientific Cooperation Program to conduct the research on ‘Differentiation of Fresh and Frozen-thawed Fish/meat using Physicochemical Changes and Particular Enzymes as the Marker’ at University of Veterinary Medicine in Vienna, Austria (April-June, 1999).

-Visited South China Agricultural University, Republic of China, to give the lecture on seafood processing technology (May 8-18, 2000).

-Conducted the collaborative research on ‘Differences in gelation characteristic of actomyosin from two species of bigeye snapper’ at Tokyo University of Fisheries, Tokyo, Japan under the Core university program supported by NRCT-JSPS (October 5-December 3, 2000).

-Received Scholarship under Thailand-Austria Scientific Cooperation Program to conduct the research on ‘Antioxidative activity of porcine plasma protein-sugar model system’ at University of Veterinary Medicine in Vienna, Austria (May-June, 2002).

-Conducted the collaborative research on ‘Purification and characterization of trimethylamine-oxide demethylase from lizardfish (*Saurida micropectoralis*) internal organs’ at Tokyo University of Fisheries, Tokyo, Japan under the Core university program supported by NRCT-JSPS (October 1-November 29, 2002).

-Conducted the collaborative research on ‘Antioxidative activity of caramelization products and their preventive effect on retardation of lipid oxidation’ at Tokyo University of Marine Science and Technology, Tokyo, Japan under the Core university program supported by NRCT-JSPS (October 6-November 7, 2003).

-Conducted the collaborative research on ‘The characterization and the inhibition of polyphenoloxidase from kuruma prawn’ at Tokyo University of Marine Science and Technology, Tokyo, Japan under the Core university program supported by NRCT-JSPS (October 11-November 12, 2004).

-Conducted the collaborative research on ‘Effect of pyrophosphate and ATP on the dissociation of muscle proteins’ at Tokyo University of Marine Science and Technology, Tokyo, Japan under the Core university program supported by NRCT-JSPS (October 2-October 29, 2005).

-Conducted the collaborative research on ‘The antioxidative activity of fish gelatin hydrolysate using different proteinase’ at Tokyo University of Marine Science and Technology, Tokyo, Japan under the Core university program supported by NRCT-JSPS (October 1-October 28, 2006).

Awards:

- 1) IFT Seafood Technology Division Student Paper Competition Award at the 1997 Annual Meeting of IFT, Orlando, Florida.
- 2) 25th Anniversary Faculty of Natural Resources Outstanding Alumni award
- 3) Thailand Young Scientist Award Year 2001
- 4) PSU distinguished research Year 2002
- 5) Scientific achievement award, The American Biographical Institute: 500 leaders of Science Year 2003
- 6) PSU outstanding young faculty award Year 2005
- 7) PSU outstanding research faculty award Year 2006
- 8) International Foundation for Science (IFS) Jubilee award (Sweden) Year 2006
- 9) Thailand Research Fund Top Research Award year 2007
- 10) Outstanding Researcher of Thailand (Agriculture and Biology) Year 2008
- 11) Senior Research Scholar of Thailand Research Fund Year 2008
- 12) Science and Technology Award (Toray Thailand Science Foundation) Year 2009
- 13) Outstanding scientist of Thailand Year 2011
- 14) Senior Research Scholar of Thailand Research Fund Year 2011
- 15) Outstanding Research, the Thailand Research Fund Year 2011
- 16) Distinguished Research Professor of Thailand Year (The Thailand Research Fund) Year 2015
- 17) Thomson Reuters Thailand Frontier Author Award Year 2015
- 18) Thomson Reuters Highly cited researcher Year 2016
- 19) Ajinomoto Award Year 2016
- 20) Tanner Award Year (Institute of Food Technologists, USA) 2017

Innovation award:

- 1) Silver medal: Water soluble pouch from fish gelatin from the 42nd International Exhibition of Inventions in Geneva, Switzerland, 2-6 April, 2014.
- 2) Silver medal: Fish Bone Biocalcium from the 45th International Exhibition of Inventions in Geneva, Switzerland, 29 March-2 April, 2017
- 3) Special Prize: Fish Bone Biocalcium from Korea Invention Promotion Association, 29 March-2 April, 2017

Research Grants

Projects	Granting agency	Budget	Year	Status	
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		(Baht)			
1) Seabass muscle proteins: physicochemical properties, degradation and denaturation	Thai government	450,000	1999-2001	Principal investigator	D
2) Proteinase inhibitors from legume seeds: extraction and inhibitory effect on modori inducing proteinase	Thailand Research Fund	200,000	1998-1999	Principal investigator	D
3) Cysteine proteinase inhibitors from Thai legume seeds: extraction, characterization and their uses as the processing aid in surimi	Prince of Songkla University	200,000	1998-1999	Principal investigator	D
4) Bioactive components in pig plasma: isolation and application as surimi gel enhancer	International Foundation for Science, Sweden	370,000	1998-1999	Principal investigator	D
5) Improvement of gel quality of surimi from bigeye snapper (<i>Priacanthus macracanthus</i>)	Thailand Research Fund	1,380,000	2001-2004	Principal investigator	D
6) Physico-chemical and biochemical changes in Nham during fermentation	BIOTEC	1,606,000	2000-2003	Co-investigator	D
7) Improvement of gel quality of surimi produced from frozen fish	BIOTEC	1,992,000	2001-2003	Principal investigator	D
8) Role of setting and porcine plasma protein in gel quality improvement of surimi from tropical fish	International Foundation for Science, Sweden	450,000	2001-2002	Principal investigator	D
9) Chemical compositions, properties and structure of muscle affecting textural characteristics of meat from Thai indigenous chicken and broiler'	Prince of Songkla University	200,000	2002-2003	Principal investigator	D
10) Shelf-life-extension of refrigerated seabass (<i>Lates</i>	BIOTEC	800,000	2002-2003	Principal investigator	D

<i>calcalifer</i>) slices under modified atmosphere packaging					
11) Production and characterization of fish sauce produced from tuna internal organs	BIOTEC	1,190,000	2003-2004	Principal investigator	D
12) Some intrinsic properties and gel-forming ability of starry triggerfish (<i>Abalistes stellaris</i>) muscle	Prince of Songkla University	300,000	2002-2003	Principal investigator	D
13) Effect of lipids and protein cross-linkers on the properties of surimi film	Prince of Songkla University	200,000	2004-2006	Co-investigator	D
14) Porcine plasma protein sugar Maillard reaction products: antioxidative activity and its application in surimi products	International Foundation for Science	450,000	2004-2005	Principal investigator	D
15) Comparative study on characteristics, post-mortem changes and keeping quality of black tiger and white shrimp cultured in Thailand	BIOTEC	1,650,000	2005-2006	Principal Investigator	D
16) Effect of lipids and protein cross-linkers on the properties of surimi protein film	Prince of Songkla University	200,000	2005-2006	Co-investigator	D
17) Uses of phenolic compounds as cross-linkers in fish myofibrillar protein film	Thailand Research Fund	480,000	2005-2007	Co-investigator	D
18) Uses of phosphate compounds for increasing the yield and stability of black tiger shrimp (<i>Penaeus monodon</i>) during frozen storage	Thai government	800,000	2006-2008	Principal investigator	D
19) Intrinsic factors affecting the properties of mackerel muscle protein film and the improvement of its water	Thai government	677,000	2006-2008	Co-investigator	D

vapor barrier property					
20) Som-fug from marine fish: production, characteristics and shelf-life extension	BIOTEC	350,000	2006-2007	Principal investigator	D
21) Effect of phosphate compounds on setting and gel-forming ability of surimi	Thai government	400,000	2006-2007	Principal investigator	D
22) Factors affecting the cross-linking activity of microbial transglutaminase towards muscle proteins of bigeye snapper and lizardfish	Thai government	800,000	2007-2009	Principal investigator	D
23) Study on characteristics and properties of biodegradable polymer blend of fish myofibrillar protein and polyvinyl alcohol	Thai government	606,000	2008-2009	Co-investigator	D
24) Production of collagen/gelatin and their hydrolysate from fish skin	BIOTEC	1,600,000	2008-2010	Principal investigator	D
25) Use of Maillard reaction products (MRPs) for melanosis prevention of black tiger shrimp and white shrimp	BIOTEC	1,511,000	2008-2010	Principal investigator	D
26) Mungoong, shrimp extract paste, from white shrimp (<i>Litopenaeus vannamei</i>) cephalothorax: Antioxidative activity and the effect of the uses of proteinase on yield and some properties	Thai government	900,000	2008-2009	Principal investigator	D
27) Effect of gelatin extraction conditions and clove extract incorporation on some properties of film from bigeye snapper skin gelatin	Thai government	200,000	2008-2009	Co-investigator	D
28) Quality improvement of fishery products and the	Thailand Research Fund	7,490,000	2008-2011	Principal investigator	D

maximized uses of fish processing by-products					
29) Gelation, proteolysis and the improvement of gel from Goatfish (<i>Mulloidichthys martinicus</i>) muscle	Thai government	900,000	2010-2012	Principal investigator	D
30) Inhibition of polyphenol oxidase and melanosis in Pacific white shrimp (<i>Litopenaeus vannamei</i>) by phenolic compounds	National Research University	1,800,000	2010-2013	Principal investigator	D
31) Maximized uses of phenolic compounds in retardation of lipid oxidation and shelf-life extension of fish and fish products	National Research University	1,800,000	2010-2013	Principal investigator	D
32) Discoloration and its prevention of protein film from red tilapia muscle	National Research University	1,000,000	2010-2012	Principal investigator	D
33) Quality improvement of fishery products and the maximized uses of fish processing by-products (Phase-II)	Thailand Research fund	7,500,000	2011-2014	Principal investigator	D
34) Factors affecting the blackening in pre-cooked Pacific white shrimp (<i>Litopenaeus vannamei</i>) and its prevention	NSTDA	1,080,000	2011-2012	Principal investigator	D
35) Property improvement and utilization of gelatin from fish skin	National Research Council of Thailand	3,800,000	2012-2014	Principal investigator	D
36) Extraction and Characterization of Gelatin from Cuttlefish Skin and Gel Strengthening Using Kiam Wood and Cachew Nut Bark Extracts	National Research Council of Thailand	750,000	2012-2104	Principal investiagtor	D
37) Impact of Halal Slaughtering	PSU Halal Institute	400,000	2013-	Prncipal	D

on Quality and Shelf-life of Broiler Chicken Meat			2014	investigator	
38) Lipids from cephalothorax and hepatopancreas of Pacific white shrimps (<i>Litopenaeus Vannamei</i>): compositions and deterioration as affected by iced storage	National Research University	400,000	2013-2014	Principal investigator	D
39) Value-added products from yellowfin tuna swim bladder: collagen, gelatin and fish maw	PSU Halal Institute	400,000	2013-2014	Principal investigator	D
40) Characteristics and gelling property of gelatin from goat skin as affected by extraction and drying conditions	PSU Halal Institute	400,000	2014-2015	Principal Investigator	D
41) Production of protein hydrolysate with negligible muddy- and fishy-odor/flavor from freshwater and marine fish	National Research Council of Thailand	980,000	2013-2015	Principal investigator	D
42) Enhancement of quality and safety of seafoods and seafood products	Thailand Research fund	9,000,000	2015-2018	Principal investigator	O
43) Nutraceuticals and cosmeceuticals from fish processing byproducts	Natioanl Research University	13,000,000	2015-2017	Principal investigator	O
44) Process deveopment for better utilization of Pacific white shrimp byproducts	Agricultural Research Development Agency	2,480,000	2016-2017	Prinipal investigator	O

D: done; O: on-going; R: in review

Publications:

1. Benjakul, S. and Sophanodora, P. 1993. Chitosan production from carapace and shell of black tiger shrimp. ASEAN Food J. 8(4): 145-148.
2. Benjakul, S. and Sophanodora, P. 1994. Improvement of deacetylation of chitin from black tiger shrimp (*Penaeus monodon*) carapace and shell. ASEAN Food J. 9(4): 136-140.
3. Benjakul, S. and Taylor, KDA. 1994. Lipids and fatty acids of dogfish (*Squalus acanthias*) liver oil extracted by different methods. Songklanakarin J. Sci. Technol. 16: 31-36.

4. Benjakul, S. And Taylor, KDA.1994. Fatty acids comparison between male and female dogfish (*Squalus acanthias*) liver oil extracted by steaming method. Food. 24: 272-278.
5. Benjakul, S., Seymour, T. A., Morrissey, M. T. and An, H. 1996. Proteinase in Pacific whiting surimi wash water: Identification and characterization. J. Food Sci. 61: 1165-1170. (part of Ph.D. thesis)
6. Benjakul, S. and Morrissey, M. T. 1997. Protein Hydrolysates from Pacific Whiting Solid Wastes. J. Agric. Food Chem. 45: 3423-3430. (part of Ph.D. thesis)
7. Benjakul, S., Morrissey, M. T., Seymour, T. A. and An, H. 1997. Recovery of proteinase from Pacific whiting surimi wash water. J. Food Biochem. 21: 431-443. (part of Ph.D. thesis)
8. Benjakul, S., Seymour, T. A., Morrissey, M. T. and An, H. 1997. Physicochemical changes in Pacific whiting muscle proteins during iced storage. J. Food Sci. 62: 729-733. (part of Ph.D. thesis)
9. Benjakul, S., Seymour, T. A., Morrissey, M. T. and An, H. 1998. Characterization of proteinase recovered from Pacific whiting surimi wash water. J. Food Biochem. 22: 1-16. (part of Ph.D. thesis)
10. Benjakul, S. and Aroonrueng, N. 1999. Effect of smoke sources on quality and storage stability of catfish fillet (*Clarias macrocephalus Gunther*). J. Food Quality. 22: 213-224.
11. Benjakul, S., Karoon, S. and Suwanno, A. 1999. Inhibitory effects of legume seed extracts on fish proteinases. J. Sci. Food Agric. 79: 1875-1881.
12. Benjakul, S. and Bauer, F. 2000. Physicochemical and enzymatic changes of cod muscle proteins subjected to different freeze-thaw cycles. J. Sci. Food Agric. 80: 1143-1150.
13. Benjakul, S. and Visessanguan, W. 2000. Pig plasma protein: Potential use as proteinase inhibitor for surimi manufacture; inhibitory activity and the active components. J. Sci. Food Agric. 80: 1351-1356.
14. Benjakul, S., Visessanguan, W., Tanaka, M., Ishizaki, S., Taluengphol, A. and Chichanan, U. 2000. Physicochemical and textural properties of dried squid as affected by alkaline treatments. J. Sci. Food Agric. 80: 2142-2148.
15. Benjakul, S., Visessanguan, W. and Thummaratwasik, P. 2000. Inhibition of gel weakening of threadfin bream surimi using Thai legume seed proteinase inhibitors. J. Food Biochem. 24: 363-380.
16. Benjakul, S., Visessanguan, W. and Thummaratwasik, P. 2000. Isolation and characterization of trypsin inhibitors from some Thai legume seeds. J. Food Biochem. 24: 107-127.
17. Chantachum, S., Benja
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22. kul, S. and Sriwirat, N. 2000. Separation and quality of fish oil from precooked and non-precooked tuna heads. *Food Chem.* 69: 289-294.
23. Visessanguan, W., Benjakul, S. and An, H. 2000. Porcine plasma proteins as a surimi protease inhibitor: Effects on actomyosin gelation. *J. Food Sci.* 65: 607-611.
24. Benjakul, S. and Bauer, F. 2001. Biochemical and physicochemical changes in catfish (*Silurus glanis Linne*) muscle as influenced by different freeze-thaw cycles. *Food Chem.* 72: 207-217.
25. Benjakul, S., Visessanguan, W. and Haejung, A. 2001. Properties of cysteine proteinase inhibitors from black gram and rice bean. *J. Food Biochem.* 25: 211-227.
26. Benjakul, S., Visessanguan, W., Ishizaki, S. and Tanaka, M. 2001. Differences in gelation characteristics of natural actomyosin from two species of bigeye snapper, *Priacanthus tayenus* and *Priacanthus macracanthus*. *J. Food Sci.* 66: 1311-1318.
27. Benjakul, S., Visessanguan, W. and Srivilai, C. 2001. Gel properties of bigeye snapper (*Priacanthus tayenus*) surimi as affected by setting and porcine plasma proteins. *J. Food Quality.* 24: 453-471.
28. Benjakul, S., Visessanguan, W. and Srivilai, C. 2001. Porcine plasma proteins as gel enhancer in bigeye snapper (*Priacanthus tayenus*) surimi. *J. Food Biochem.* 25: 285-305.
29. Benjakul, S., Visessanguan, W. and Srivilai, C. 2001. Porcine plasma protein as proteinase inhibitor in bigeye snapper (*Priacanthus tayenus*) muscle and surimi. *J. Sci. Food Agric.* 81: 1039-1046.
30. Benjakul, S., Visessanguan, W., Tanaka, M., Ishizaki, S., Suthidham, R. and Sungpech, O. 2001. Effect of chitin and chitosan on gelling properties of surimi from barred garfish (*Hemiramphus far*). *J. Sci. Food Agric.* 81: 102-108.
31. Benjakul, S., Veessanguan, W. and Leelapongwattana, K. 2002. Characteristics of muscle from two species of bigeye snapper, *priacanthus tayenus* and *priacanthus macracanthus*. *J. Food Biochem.* 26: 307-326.
32. Benjakul, S., Visessanguan, W., Riebroy, S., Ishizaki, S. and Tanaka, M. 2002. Gel-forming properties of surimi produced from bigeye snapper, *Priacanthus tayenus* and *P macracanthus*, stored in ice. *J. Sci. Food Agric.* 82: 1442-1451.
33. Masniyom, P., Benjakul, S. and Visessanguan, W. 2002. Shelf-life extension of refrigerated seabass slices under modified atmosphere packaging. *J. Sci. Food Agric.* 82: 873-880.
34. Benjakul, S., Chantarasuwan, C. and Visessanguan, W. 2003. Effect of medium temperature setting on gelling characteristics of surimi from some tropical fish. *Food Chem.* 82: 567-574.
35. Benjakul, S., Leelapongwattana, K. and Visessanguan, W. 2003. Comparative study on proteolysis of two species of bigeye snapper, *Priacanthus macracanthus* and *Priacanthus tayenus*. *J. Sci. Food Agric.* 83: 871-879.

36. Benjakul, S. and Visessanguan, W. 2003. Transglutaminase-mediated setting in bigeye snapper Surimi. *Food Res. Int.* 36: 253-266.
37. Benjakul, S., Visessanguan, W. and Leelapongwattana, K. 2003. Purification and characterization of heat-stable alkaline proteinase from bigeye snapper (*Priacanthus macracanthus*) muscle. *Comp. Biochem. Physiol. B: Biochem. Mol. Biol.* 134: 579-591.
38. Benjakul, S., Visessanguan, W., Phatchrat, S. and Tanaka, M. 2003. Chitosan affects transglutaminase-induced surimi gelation. *J. Food Biochem.* 27: 53-66.
39. Benjakul, S., Visessanguan, W. and Tanaka, M. 2003. Partial purification and characterization of trimethylamine-N-oxide demethylase from lizardfish kidney. *Comp. Biochem. Physiol. B: Biochem. Mol. Biol.* 135: 359-371.
40. Benjakul, S., Visessanguan, W., Thongkaew, C. and Tanaka, M. 2003. Comparative study on physicochemical changes of muscle proteins from some tropical fish during frozen storage. *Food Res. Int.* 36: 787-795.
41. Benjakul, S., Visessanguan, W. and Tueksuban, J. 2003. Heat-activated proteolysis in lizardfish (*Saurida tumbil*) muscle. *Food Res. Int.* 36: 1021-1028.
42. Benjakul, S., Visessanguan, W. and Tueksuban, J. 2003. Changes in physico-chemical properties and gel-forming ability of lizardfish (*Saurida tumbil*) during post-mortem storage in ice. *Food Chem.* 80: 535-544.
43. Kim, S. H., An, H., Wei, C. I., Visessanguan, W., Benjakul, S., Morrissey, M. T., Su, Y. C. and Pitta, T. P. 2003. Molecular detection of a histamine former, *Morganella morganii*, in albacore, mackerel, sardine, and a processing plant. *J. Food Sci.* 68: 453-457.
44. Murakawa, Y., Benjakul, S., Visessanguan, W. and Tanaka, M. 2003. Inhibitory effect of oxidized lipid on the thermal gelation of Alaska pollack (*Theragra chalcogramma*) surimi. *Food Chem.* 82: 455-463.
45. Visessanguan, W., Benjakul, S. and An, H. 2003. Purification and characterization of cathepsin L in arrowtooth flounder (*Atheresthes stomias*) muscle. *Comp. Biochem. Physiol. B: Biochem. Mol. Biol.* 134: 477-487.
46. Visessanguan, W., Benjakul, S. and Tanaka, M. 2003. Effect of microbial transglutaminase on rheological properties of oxidised and non-oxidised natural actomyosin from two species of bigeye snapper. *J. Sci. Food Agric.* 83: 105-112.
47. Benjakul, S., Visessanguan, W. and Chantarasuwan, C. 2004. Effect of high-temperature setting on gelling characteristic of surimi from some tropical fish. *Int. J. Food Sci. Technol.* 39: 671-680.
48. Benjakul, S., Visessanguan, W. and Chantarasuwan, C. 2004. Effect of porcine plasma protein and setting on gel properties of surimi produced from fish caught in Thailand. *LWT-Food Sci. Technol.* 37: 177-185.
49. Benjakul, S., Visessanguan, W. and Chantarasuwan, C. 2004. Cross-linking activity of sarcoplasmic fraction from bigeye snapper (*Priacanthus tayenus*) muscle. *LWT-Food Sci. Technol.* 37: 79-85.

50. Benjakul, S., Visessanguan, W. and Kwalumtharn, Y. 2004. The effect of whitening agents on the gel-forming ability and whiteness of surimi. *Int. J. Food Sci. Technol.* 39: 773-781.
51. Benjakul, S., Visessanguan, W. and Pecharat, S. 2004. Suwari gel properties as affected by transglutaminase activator and inhibitors. *Food Chem.* 85: 91-99.
52. Benjakul, S., Visessanguan, W. and Tanaka, M. 2004. Induced formation of dimethylamine and formaldehyde by lizardfish (*Saurida micropectoralis*) kidney trimethylamine-N-oxide demethylase. *Food Chem.* 84: 297-305.
53. Benjakul, S., Visessanguan, W., Tueksuban, J. and Tanaka, M. 2004. Effect of some protein additives on proteolysis and gel-forming ability of lizardfish (*Saurida tumbil*). *Food Hydrocolloid.* 18: 395-401.
54. Chaijan, M., Benjakul, S., Visessanguan, W. and Faustman, C. 2004. Characteristics and gel properties of muscles from sardine (*Sardinella gibbosa*) and mackerel (*Rastrelliger kanagurta*) caught in Thailand. *Food Res. Int.* 37: 1021-1030.
55. Klomklao, S., Benjakul, S. and Visessanguan, W. 2004. Comparative studies on proteolytic activity of splenic extract from three tuna species commonly used in Thailand. *J. Food Biochem.* 28: 355-372.
56. Masniyom, P., Benjakul, S. and Visessanguan, W. 2004. ATPase activity, surface hydrophobicity, sulfhydryl content and protein degradation in refrigerated seabass muscle in modified atmosphere packaging. *J. Food Biochem.* 28: 43-60.
57. Rawdkuen, S., Benjakul, S., Visessanguan, W. and Lanier, T. C. 2004. Chicken plasma protein affects gelation of surimi from bigeye snapper (*Priacanthus tayenus*). *Food Hydrocolloid.* 18: 259-270.
58. Rawdkuen, S., Benjakul, S., Visessanguan, W. and Lanier, T. C. 2004. Chicken plasma protein: Proteinase inhibitory activity and its effect on surimi gel properties. *Food Res. Int.* 37: 156-165.
59. Riebroy, S., Benjakul, S., Visessanguan, W., Kijrongrojana, K. and Tanaka, M. 2004. Some characteristics of commercial Som-fug produced in Thailand. *Food Chem.* 88: 527-535.
60. Shiku, Y., Hamaguchi, P. Y., Benjakul, S., Visessanguan, W. and Tanaka, M. 2004. Effect of surimi quality on properties of edible films based on Alaska pollack. *Food Chem.* 86: 493-499.
61. Visessanguan, W., Benjakul, S., Riebroy, S. and Thepkasikul, P. 2004. Changes in composition and functional properties of proteins and their contributions to Nham characteristics. *Meat Sci.* 66: 579-588.
62. Wattanachant, S., Benjakul, S. and Ledward, D. A. 2004. Composition, color, and texture of thai indigenous and broiler chicken muscles. *Poultry science.* 83: 123-128.
63. Benjakul, S., Lertittikul, W. and Bauer, F. 2005. Antioxidant activity of Maillard reaction products from a porcine plasma protein-sugar model system. *Food Chem.* 93: 189-196.

64. Benjakul, S., Thongkaew, C. and Visessanguan, W. 2005. Effect of reducing agents on physicochemical properties and gel-forming ability of surimi produced from frozen fish. *Eur. Food Res. Technol.* 220: 316-321.
65. Benjakul, S., Visessanguan, W., Phongkanpai, V. and Tanaka, M. 2005. Antioxidative activity of caramelisation products and their preventive effect on lipid oxidation in fish mince. *Food Chem.* 90: 231-239.
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Collaborative Universities/Institutions

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2. Department of Biochemistry, Faculty of Science, Prince of Songkla University, Hat Yai, Thailand
3. Department of Food Science and Technology, Tokyo University of Marine Science and Technology, Japan (JSPS collaborative program and RGJ Ph.D. program)
4. Laboratory of Marine Food Science and Laboratory of Food Biochemistry, Hokkaido University, Japan
5. Department of Food Science, North Calorina State University, USA (RGJ Ph.D. program)
6. Department of Animal Science, University of Connecticut, USA (RGJ Ph.D. program)
7. Department of Food Science, University of Massachusetts, USA (Ph.D. sandwich program)
8. School of Food Bioscience, University of Reading, UK (Ph.D. sandwich program)
9. Department of Food Science and Agricultural Chemistry, McGill University, Canada (RGJ Ph.D. program)
10. School of Biomedical and Life Science, University of Surrey, UK (RGJ Ph.D. program)
11. Laboratory of Food Chemistry, Wageningen University, The Netherlands (The

- Commission (of Higher Education Ph.D. program)
12. Department of Marine Biochemistry, Faculty of Fisheries, Nagasaki University, Bunkyo, Japan (The Commission of Higher Education Ph.D. program)
 13. Department of Agricultural, Food & Nutritional Sciences, University of Alberta, Canada (The Commission of Higher Education Ph.D. program)
 14. Department of Animal and Food Sciences, University of Kentucky, USA (RGJ Ph.D. program)
 15. Department of Biochemistry, Memorial University of Newfoundland, St. John's, NL, Canada (RGJ Ph.D. program)
 16. Matis - Icelandic Food and Biotechnology R & D, Vinlandsleid 12, Reykjavik, Iceland (RGJ Ph.D. program)
 17. School of Food and Nutritional Sciences, University College Cork, Cork, Ireland (RGJ Ph.D. program)
 18. School of Chemical Sciences, Food Science Programme, The University of Auckland, Auckland, New Zealand (RGJ Ph.D. program)