

1. Record Nr.	UNINA9910824489003321
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Titolo	Chemistry of the sense of smell // by Charles S. Sell
Pubbl/distr/stampa	Hoboken, New Jersey : , : John Wiley & Sons, , 2014 ©2014
ISBN	1-118-52298-2 1-118-52314-8
Descrizione fisica	1 online resource (471 p.)
Disciplina	612.8/6
Soggetti	Chemical senses
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Title Page; Contents; Preface; Acknowledgments; Introduction; Chapter 1 Why Do We Have a Sense of Smell?; The Evolution of Olfaction; Good Food; Bad Food; Navigation; Danger Signals; Chemical Communication; Insect Pheromones; Vertebrate Pheromones?; Mammalian Pheromones?; Caveat; Communication in Plants; Micro-organism- and Parasite-Induced Communication; Human Olfaction in Context; Olfaction in the Context of the Senses; The Chemical Basis of All the Senses; Distinguishing Features of Smell as a Sense; Odour is not a Molecular Property; References; Chapter 2 The Mechanism of Olfaction OverviewComparison with other Species; Differences between Insect and Human Olfaction; Differences between Fish and Mammalian Olfaction; Differences between Reptile and Mammalian Olfaction; Differences between Human Olfaction and that of Other Mammals; The Human Sense of Smell; Basic Anatomy of the Human Nose; The Olfactory Epithelium and the Olfactory Receptors; Body Position; Two Noses; Other Receptors in the Nose; Transport to the Olfactory Receptors; Nasal Airflow; Sniffing; The Olfactory Mucus; Odour-Binding Proteins; Nasal Metabolism Solubility Effects and Delivery of Odorants to ReceptorsDistribution of Olfactory Receptor Types Across the Olfactory Epithelium; Olfactory Receptors; Olfactory Receptors in Organs other than the Olfactory Epithelium; 7-Transmembrane G-Protein Coupled Receptors (GPCRs);

The Extracellular Surface; The Transmembrane Region (TM) and the Ligand Binding Pocket (LBP); Modulation of GPCR Signalling by Other Cell Proteins; Summary Description of Olfactory Receptor Structure and Activation; Multiple Binding Sites; Olfactory Receptor Modelling; Receptive Ranges of Olfactory Receptors
Receptor Amino Acid Sequence and Receptive Range Interactions Between Odorants at the Receptor; Antagonism; Allosteric Modulation of GPCRs; Activation of the G-Protein; The Second Messenger System; Signal Shut-Down and Reset; Modulation of Elements of the Second Messenger Cascade; Olfactory Neuroprocessing; Basic Flow of Signal Processing; Input from Other Senses and Non-Sensory Sources; Techniques Used to Study Olfactory Neuroprocessing; Olfactory Sensory Neurons; The Olfactory Bulb; The Piriform Cortex; The Orbitofrontal Cortex; Other Higher Brain Centres; Brain Plasticity; Temporal Effects The Link from Molecular Structure to Perception Olfactory Fatigue, Adaptation and Habituation; Pattern Recognition; Mixtures; Binary Mixtures; The Subjectivity of Odour; Anosmia; Introduction; General Anosmia; Specific Anosmia; Overcoming Specific Anosmia; References; Chapter 3 Analysis and Characterisation of Odour; Chemical Analysis of Odour; Chemical Purity and Odour Purity; Measurement and Characterisation of Odour; Subjectivity of Odour; Techniques of Odour Measurement; Odour Character; Odour Threshold; Odour Intensity; Odour Tenacity; Odour Radiance, Bloom and Trail; Electronic Noses
References

Sommario/riassunto

The book provides an account of the totality of fragrance chemistry in one volume. It describes the chemistry of odorous materials, how and why they are produced in nature, how they are produced and used commercially, how they are analyzed and characterized, the chemistry of how we perceive them, and their role in our everyday lives. The final chapter reviews the major intellectual challenges for fragrance chemists and considers the future of the field.
