

2016

53

+MOOC+QQ

1.

The screenshot shows a MOOC platform interface. On the left, there's a sidebar with course navigation: '食品化学与营养' (Food Chemistry and Nutrition), '第一章 食品化学概论' (Chapter 1: Introduction to Food Chemistry), '第一节 多酚氧化酶' (Section 1: Polyphenol Oxidase), and '第二节 果胶酶' (Section 2: Pectinase). The main area displays a video titled '(一) 多酚氧化酶的酶学特性' (Enzymatic Properties of Polyphenol Oxidase). The video player shows a man speaking in front of green beans. Below the video, there's a transcript: '不同来源的PPO具有不同的结构，但绝大部分都属于铜金属酶，具有含2个铜结合位点且每个Cu与3个His残基以配位键相连所形成有特定三维结构。' The video progress bar shows 00:00 / 00:00 / 0.00 M.

2. PPT

PPT

PPT

PPT

A Microsoft PowerPoint slide titled '酶促反应速率' (Enzyme Reaction Rate). The slide contains several mathematical equations related to enzyme kinetics:

$$V_{max} = \frac{[E]_0}{[ES]} = \frac{[E]_0 + [ES] + [EI]}{[ES]}$$
$$K_m = \frac{[E]_0[S]}{[ES]} \quad K_i = \frac{[E]_0[I]}{[EI]}$$
$$\frac{K_m}{[S]} + 1 + \frac{K_m[I]}{K_i[S]}$$
$$\frac{K_m}{[S]} \left(1 + \frac{[I]}{K_i} \right) + 1$$

The slide also features a diagram of an enzyme active site with substrate and inhibitor molecules.

3.

The screenshot shows a learning management system interface. At the top, there are tabs for '视频' (Video), '课件' (Courseware), '测试题' (Test Questions), and '讨论' (Discussion). On the left, there's a sidebar with a '编辑' (Edit) button and sections for '发放' (Release), '统计' (Statistics), and '作业' (Assignment). The main content area is titled '目录' (Table of Contents) and lists chapters: '第1章 绪论' (Chapter 1: Introduction), '第2章 酶学基础' (Chapter 2: Basic Enzyme Science), '第3章 酶工程基础' (Chapter 3: Basic Enzyme Engineering), and '第4章 食品常见酶' (Chapter 4: Common Enzymes in Foods). Each chapter has sub-sections and a progress bar indicating completion. A '任务点' (Task Points) section is also present.

A discussion forum post from a user named '林南'. The post asks: '新采摘的玉米的甜味是由于玉米粒中蔗糖含量较高。由于...' (The sweetness of freshly harvested corn is due to a high sucrose content in the corn grains. Due to...). A green '回复' (Reply) button is visible. Below the post, a response from another user says: '03-03 10:07 林南: 加热让酶失活, 新鲜玉米中含有大量的具有活性的酶, 可以分解玉米中的甜味物' (At 10:07 on March 3, Lin Nan: Heating inactivates enzymes, fresh corn contains a large amount of active enzymes that can decompose the sweet substances in corn).

质, 酶在沸水中会有失去活性, 不能继续分解甜味物质, 可以保证玉米质量。

4. QQ

QQ

A screenshot of a QQ conversation between a student and a teacher named '崔智勇'. The student asks: '老师我感觉这个题没有正确答案啊' (Teacher, I feel like this question doesn't have a correct answer). The teacher responds with a list of options: 'A不是所有蛋白质都有催化活性, 比如结构蛋白。B底物不一定全是有机化合物, 比如催化过氧化氢分解的酶。C有单纯酶不需要辅因子。D机体内不是所有具有催化活性物质都是酶吧, 可能是无机催化剂呢。' (A: Not all proteins have catalytic activity, such as structural proteins. B: Substrates are not always organic compounds, such as enzymes that catalyze the decomposition of hydrogen peroxide. C: Pure enzymes do not require co-factors. D: Not all substances with catalytic activity in the body are enzymes, possibly inorganic catalysts). The student replies: '好的, 谢谢老师' (OK, thank you teacher).