$$P_{S_{\overline{c},a}|S_{\overline{c},\overline{a}}^{\overline{w}}}^{\oplus} = P_{e|S_{\overline{c},\overline{a}}}^{\oplus} P_{a|S_{\overline{c},\overline{a}}}^{\oplus} + (1 - P_{e|S_{\overline{c},\overline{a}}}^{\oplus}) P_{a|S_c}$$

$$P_{e|S_c} (1 - P_{a|S_c})$$

$$P_{e|S_c} P_{a|S_c} (1 - P_{a|S_c})$$

$$P_{w}^{\oplus} P_{e|S_c} (1 - P_{a|S_c})$$

$$P_{w}^{\oplus} P_{e|S_c} (1 - P_{a|S_c})$$

$$P_{e|S_c} P_{a|S_c} + (1 - P_{w}^{\oplus}) P_{S_{\overline{c},a}|S_{\overline{c},\overline{a}}^{\overline{w}}}$$