Table S1. All the expectations of $E(x)$, $E(b)$, and $E(c)$ when $(G_F,\ G_M,\ G_O) \in \Omega_1$.

G_O	G_F	x	$P\{G_M \mid G_F, G_O\}$	b	c	$E(b \mid G_O, G_F)$	$E(c \mid G_O, G_F)$	$E(x \mid G_O, G_F)$
$G_O = 0$	$G_F = 0$	$x = -1$	$P\{G_M = 1 \mid G_F, G_O\} = \text{MAF}$	0	1	0	MAF	$-\text{MAF}$
		$x = 0$	$P\{G_M = 0 \mid G_F, G_O\} = 1 - \text{MAF}$	-	-			
	$G_F = 1$	$x = -2$	$P\{G_M = 1 \mid G_F, G_O\} = \text{MAF}$	0	2	0	$1 + \text{MAF}$	$-(1 + \text{MAF})$
		$x = -1$	$P\{G_M = 0 \mid G_F, G_O\} = 1 - \text{MAF}$	0	1			
$G_O = 1$	$G_F = 0$	$x = 0$	$P\{G_M = 2 \mid G_F, G_O\} = \text{MAF}$	-	-	$1 - \text{MAF}$	0	$1 - \text{MAF}$
		$x = 1$	$P\{G_M = 1 \mid G_F, G_O\} = 1 - \text{MAF}$	1	0			
	$G_F = 1$	$x = -1$	$P\{G_M = 2 \mid G_F, G_O\} = \text{MAF}^2$	0	1	$1 - \text{MAF}^2$	$2\text{MAF} - \text{MAF}^2$	$1 - 2\,\text{MAF}$
		$x = 0$	$P\{G_M = 1 \mid G_F, G_O\} = 2\text{MAF} \cdot (1 - \text{MAF})$	1	1			
		$x = 1$	$P\{G_M = 0 \mid G_F, G_O\} = (1 - \text{MAF})^2$	1	0			
	$G_F = 2$	$x = -1$	$P\{G_M = 1 \mid G_F, G_O\} = \text{MAF}$	0	1	0	MAF	$-\text{MAF}$
		$x = 0$	$P\{G_M = 0 \mid G_F, G_O\} = 1 - \text{MAF}$	-	-			
$G_O = 2$	$G_F = 2$	$x = 0$	$P\{G_M = 2 \mid G_F, G_O\} = \text{MAF}$	-	-	$1 - \text{MAF}$	0	$1 - \text{MAF}$
		$x = 1$	$P\{G_M = 1 \mid G_F, G_O\} = 1 - \text{MAF}$	1	0			
	$G_F = 1$	$x = 1$	$2\,P\{G_M = 2 \mid G_F, G_O\} = \text{MAF}$	1	0	$2 - \text{MAF}$	0	$2 - \text{MAF}$
		$x = 2$	$2\,P\{G_M = 1 \mid G_F, G_O\} = 1 - \text{MAF}$	2	0			